President's Address

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

W. AINSLIE HOLLIS, M.A., M.D., F.R.C.P.,

CONSULTING PHYSICIAN, SUSSEX COUNTY HOSPITAL, BRIGHTON.

A MEDICAL HISTORY OF BRIGHTON AND THE NEIGHBOURHOOD.

In selecting this subject for the Presidential Address of the British Medical Association in 1913, I thought for awhile that a new field had been opened up for investigation. The examination of local archives, newspapers, and maps (including guide books), and the publication of the results from time to time in a Presidential address would presumably in the course of years result in the formation of an extremely interesting record—a topographical history of English medicine. I soon found that I had been anticipated in this idea, for one of my predecessors in this chair—Dr. Henry Barnes—devoted his Presidential Address at Carlisle in 1896 to the medical history of that city, and last year in connexion with the annual meeting at Liverpool Dr. John Elliott performed a similar service for Chester. I am pleased that such is the case, and although I can no longer put in a claim for originating the idea, I may perhaps be allowed to help onwards its realization.

THE PREHISTORIC EPOCH.

The recent discovery of fragments of a human skull of extreme antiquity at Piltdown[3]—within the boundaries of this Divisional area—in the terraced gravel through which the river Ouse now runs, and 80 ft. above the level of the present bed of the stream, suggests to our minds that these southern acres were peopled hundreds of thousands of years ago, at the evolutionary dawn of the human race. To-night, however, I shall begin with the neolithic era. Along the ridge of Downland extending backwards between Brighton and the Dyke several prehistoric camping grounds—one in a field opposite the Booth Museum of Birds—have been discovered, and hand-worked flints or other neolithic remains unearthed.[1] At the back of the Downs the so-called pigmy-flints have been found at various spots on the Weald. Many of these little flakes with their sharp edges and needle-like points would make very respectable "lancets" for the modern general practitioner, and knowing what we do of the cleverness of the stone-age surgeon, of his skill in the treatment of fractures, and of his ability to trephine the skull of his patient in cases of need,[2] it is very probable that some of these flakes may have been used for trepanning, blooding, tattooing, or shaving. In a cave in the valley of the Wye a fragment of human frontal bone was recently discovered, probably of neolithic date; in it were distinct indications of an operation having been performed during life.[2]

In the local museum two relics of the early bronze age found at Lancing may have been used in surgery. One (catalogued in a metropolitan museum which has several specimens as "spoon to extract unguents from narrow-necked bottles") is very like a guider or director, and the other a scraper, figured in the old English and Dutch editions of Ambroise Paré's work on surgery. They may have been used for operative purposes.[4]

THE EARLY HISTORIC PERIOD.

Pliny asserts:* "The Roman people got on for six hundred years without doctors." Doubtless an exaggeration; yet I can obtain no records referring to the practice of medicine within this Divisional area during the Roman occupation of this island, nor for some centuries subsequently. Roman emperors and the early English kings had their court physicians. In the latter case usually *diverted* bishops or abbots, not reared to the cause. Nevertheless one swallow does not make a summer, and Pliny's statement holds good, I think, for this part of England at all events.

After the Norman Conquest, when much of the land had fallen into the hands of the religious communities, these over-lords were compelled to look after the health and general welfare of the villeins or serfs who lived on the land, and by their labour contributed so largely to the support of these wealthy monastic institutions. Accordingly we find at the beginning of the thirteenth century the monks of the rich Cluniac Priory of St. Pancras at Lewes (originally founded by Wm. De Warrenne) built a large infirmary: "the beds were arranged against the walls." The "fermorie," as it was then called, was "not only for the sick and infirm, but also for the temporary lodging of the *minuti*, or those who had been blooded."[5] Bloodletting was a very ancient practice.

The following description of the Priory "jakes" (*domus necessaria*) shows to some extent the state of hygiene in the fourteenth century. On the northern aspect of the southernmost wall a long series of recesses have been scooped out of the stone-facing of the wall. Each recess measures roughly a foot in height and 9 in. in width, and is about 1 ft. from the ground. At the west end of the wall (and well within the angle where the ruined west wall meets the other) is the circular opening of a culvert or drain about 5 ft. or 6 ft. in diameter. This drain was evidently connected with an open conduit of water [shown in Mr. St. John Hope's plan],[5] and ran parallel to, and the length of, the southern wall. After personal visits to the spot, I think that there may have been a number of enclosed wooden boxes built side by side along the wall, and that they served as the monastic latrine. The dejecta fell directly into the sluggish stream and were carried by it to another culvert—still visible—opening at the eastern end of the building, and thence into the river Ouse. The channel was, I believe, within the "dorter," and not outside that building.

About the same period "a convent of mendicant friars more burthensome than ten endowed ones,"[6] was founded at Brighton on the land now occupied by the market and Town Hall. A chantry or free chapel was attached to the *convent*, which was probably only a small building. This offshoot of the Lewesian monastery, amongst other duties, saw to the due collection of the annual rent or *gablum* of the manor of Bristelmestune from the fisherfolk living there.[7]

So far as I can ascertain, surgery at this period of the world's history consisted mainly of "blooding" the patient, and it is possible that the friars dwelling in the Prior's Lodge at Brighton, by resorting to this simple operation, did so far help the poor overtaxed fisherfolk when sick. In so doing the holy friars would only be following the footsteps of the νοσοκόμοι (infirmarers), of the Studium monastery at Constantinople, and of Master Rahere and his brethren at St. Bartholomew's, London. At that time "blooding" was a fine art, and experts withdrew blood from different parts of the head, neck, body, and limbs, to combat the various symptoms for which relief was asked by the patient.

Nevertheless surgery was in a sorry plight during these centuries of monkish rule; whilst, during the age of flint implements, "ancient skulls with clear signs on them of extensive operations, and limb bones with well-healed fractures show that there were daring and successful surgeons among the Europeans of the neolithic age."[8] On the other hand, amongst the many hundreds of skeletons found within the precincts of the Priory grounds at Lewes, Dr. Mantell says, "Several examples of unskilful surgery 'of the good old times' were pointed out to me by my friend, Mr. Warren Lee. An arm bone, which had been broken asunder transversely, and had become firmly united, was 2 in. shorter than natural, from the fractured ends projecting over each other. A thigh bone that had been dislocated upwards had never been replaced, but was ankylosed to the pelvis and its socket obliterated; the holy brother to whom it belonged must, therefore, have suffered severely, and have halted very sadly in his walk for the remainder of his days. Of bony tumours and scrofulous caries of the bones there were several instances."[9] Such, then, was the condition of surgery in the area of this Division of the British Medical Association during the Middle Ages.

HENRY VIII TO WILLIAM III (1509–1702).

Although the suppression of the monasteries, begun in the reign of Henry V, was in most cases a legislative

* *Nat. Hist.*, xxix, c. 5. "Ceu vero non millia gentium sine Medicis degant, nec tamen sine Medicina: sicut populus Romanus ultra sexcentissimum annum."

necessity, yet like all sweeping changes in the social life of a people, it probably entailed much misery on the "sick and impotent poor." At the time of the suppression there were doubtless many sick who sought the aid of the monkish *infirmarer*. So soon as the abbey and its revenue were handed over to the noble lord and court favourite, the *fermorie* was dismantled and its value as an occasional refuge for the sick was at the same time destroyed.

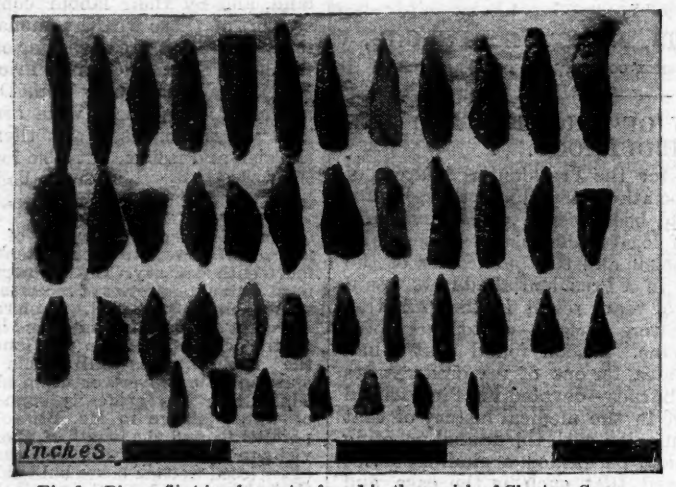


Fig. 1.—Pigmy flint implements, found in the parish of Clayton, Sussex.

At this time there was seemingly a dearth of qualified medical men—men with an Oxford or a Cambridge degree, or who had been examined by the Bishop of the diocese in which theylived—consequently the sanitary welfare of the bulk of the people was in the hands of a group of ignorant and unscrupulous charlatans. With the hope of reducing this scandalous evil and increasing the supply of doctors, qualified men were given many statutory privileges; their social position was strengthened (3 Henry VIII, c. 11); they could sue the illegal practitioner, and could mulct him in a fine of £8 a month; they were also freed from attendance on juries, and from carrying arms. Yet those legislative "sops to Cerberus" did not conduce to the end the Government had in view, for the *companie and felowship of surgeons of London* evidently objected to be saddled with the responsibility of looking after the sick poor gratuitously. So in 1542 a revising Act was passed (34 Henry VIII, c. 8), which reduced these privileges. "Sithens . . . the companie and felowship of surgeons of London mynding onelie theyre own lucre, and nothing the profite or ease of the diseased or patient" it was necessary that unqualified persons be permitted to cure outward sores by herbs, etc., or stone or ague by drinks without being sued; "for in cace they (the surgeons) wolde mynister theyre coonning to sore people unrewarded, there shoulde not so manye rotte and perishe to deathe for lack of helpe of surgerie as dailie doo." By the revising Act medical quackery was legalized, but surgery was apparently not interfered with.

Fig. 2.—Flint implements found in the neighbourhood of Brighton. 1, Clipped axe. 2, Polished axe, found at Hove. 3, A borer, Brighton. 4, Scraper. 5, Knife, Cissbury.

In 1580 there was one medical man in Brighton, Dr. Mathews, who lived in Middle Street. His terms for confinements were: at Portslade and Rottingdean, 5s.; at Blatchington, 3s. 6d.; and anywhere in the town of Brighthelmston, 2s. 6d. (Erredge, op. cit., p. 240).

The wealthy Priory of St. Pancras, Lewes, fell, after its dissolution, to the lot of the Vicar-General, Thomas, Lord Cromwell, by whom it was partly demolished. Some of the monastic buildings were preserved and fitted up as a residence for his son, Gregory, who married Elizabeth, sister to Henry's third wife, Lady Jane Seymour. From an unpublished letter in the British Museum it appears that Bluff King Hal meditated a visit to his kinswoman at Lewes, but her husband "advises the King not to come as the plague was then raging in the town."[11] I can find no other reference to this outbreak.

Little is known of the medical history of Brighton during the seventeenth century, and I must ask your indulgence for the following somewhat discursive remarks.

After the disastrous defeat at Worcester and just before his departure for France, Charles II slept for one night at an inn in Brighton. According to Richard Wiseman, his Sergeant Surgeon, this monarch possessed in an eminent degree "the admirable faculty of curing the struma" by the touch. To quote Wiseman's own words, "I myself have been a frequent eyewitness of many hundreds of cures performed by his Majesty's Touch alone: without any assistance of chirurgery: and those many of them, such as had tired out the endeavours of able chirurgeons before they came thither."[12]

It is difficult to understand how such an eminent surgeon could uphold the current superstitions concerning the Royal Touch in the way he has here done. Wiseman, I need hardly remind you, introduced into England the tying of arteries, and he advocated the excision of diseased glands whenever possible, "taking care meanwhile not to divide the cystis, so that matter flow out."[13]

In accordance with the provisions of 43 Elizabeth, 1, an Act "For the Reliefe of the Poore," a tenement for the poor existed in East Street, Brighton, in 1690.[14] During the first half of the century the poor rates were so excessive from various causes—wars, pestilence, and famine, among others—and the average social condition of the inhabitants so low, it was found impossible to maintain even this semblance of a poor-house by the parish rates alone, and a supplementary rate was therefore levied on the neighbouring parishes by order of the justices at the Quarter Sessions at Lewes (18 Elizabeth, 3, 3). Moreover, magistrates were enjoined,[15] by Order of Council held at Whitehall (June 11th, 1630), to prevent the export of corn, to suppress the making of malt, to diminish the number of ale-houses, "to see the said poore inhabitants be dewly kept to worke . . . and that the idle be dewly punished and the impotent relieved." Also that "the poor children of every parish that are aged 10 yeeres or above and fitt to be apprentises to be provided with masters."[16] It is

curious how history largely repeats itself. We read even now that Dr. Fernald of the Associated School for the Feeble-minded at Waverley, Mass., "does not try to impart mere scholastic attainments to those incapable of such knowledge, but manual occupations are early entered upon, so as to train for industrial occupations in after-life."[17] Perchance the magistrates were not so far wrong as some suppose in requiring children to be taught a handicraft in early life. Where the old system failed was in the training of adolescents, and in the treatment of all young folk as intellectually equal.

The following medical men were returned as representing constituencies in Parliament within the area of the Brighton Division of the British Medical Association during the seventeenth century.

Nicholas Barbon, M.D. Utrecht, represented Bramber in the Parliaments 1690 and 1695. He was an Honorary Fellow of the Royal College of Physicians, London, 1664.[18] After the great fire in London he was one of the first to start a fire insurance company. He made a reputation as an expert on coinage. In a *Discourse Concerning Coining the New Money Lighter* he answered Mr. Locke's *Considerations about Raising the Value of Money*, with much skill.[19]

Shoreham, another constituency in the Division, claimed a medical man as its representative in Parliament. Dr. William Quartermain was member for that borough in 1666.[20]

BRIGHTON DURING THE EIGHTEENTH CENTURY.

In 1733 the new workhouse at Brighton was completed. It was erected upon the site of the Chantry of St. Bartholomew, which was destroyed by fire at the landing of the French under Admiral Primauget in 1513. The new building was doubtless a great improvement on the tenement in East Street hitherto used as a poor-house. It is unlikely that any special arrangements were adopted for segregating "the sick and impotent poor" from the able-bodied paupers, yet they were all decently housed.[21]

During the latter part of 1749 the *Adventures of Roderick Random*, by Dr. Tobias George Smollett, were published as a serial in the *Lewes Journal*. Smollett was a naval surgeon, and he criticized with authority the inadequate arrangements that were made on board the ships of his Majesty's navy for the health and comfort of the crews.

About this time (1750) Dr. Richard Russel,* Physician to St. Thomas's Hospital, published in Latin his *Dissertatio de Tabe Glandulari et de usu Aquae Marinae in Morbis Glandularum*. A year or so afterwards—the exact date is doubtful—he "discovered Brighton." He resided there annually during the season until his death in 1759. His essay on sea water is somewhat discursive. The cases selected for publication as among those benefited by the external or the internal administration of sea water included patients suffering from struma, constipation, renal calculus, "scirrhus," and other diseases. His contemporary Dr. Speed, in a *Commentary on Sea Water*, wrote: "I think we ought to attribute the Alleviation to the prudent Use of other select Medicines which this Author [Dr. Russel] employed rather than to the drinking of Sea Water."[22] Be this as it may, Dr. Russel, who was very popular, especially among the ladies, undoubtedly attracted many fashionable folk to the town by his advocacy of sea bathing and sea water. His widowed daughter, Hannah, married William Pepys, a collateral descendant of Samuel the diarist.[23]

On the death of Russel several physicians announced—with discreetly worded phrases in the local journal—their intention to carry on that lamented doctor's practice. "We are assured," says one of these notices, "that Dr. S., son of Dr. S. of London, is settled at Brighton to succeed the late Dr. Russel there." Again, Dr. P. is mentioned a week or so afterwards as "attending at Brighton during the season." "He has already given great satisfaction to many of the late doctor's patients."

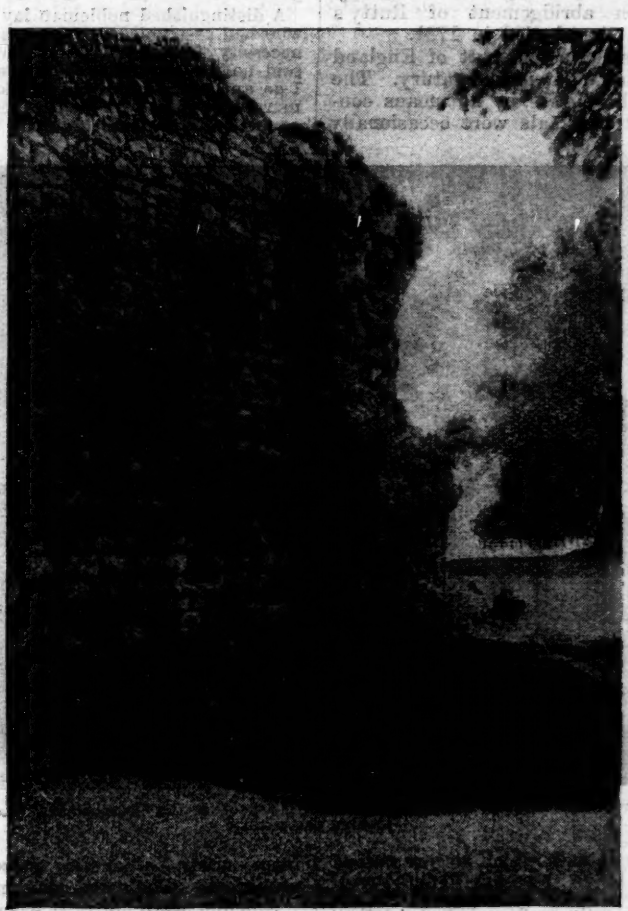


Fig. 3.—Mouth of the monastic "cloaca" in the south-west angle of the "rere dorter" at the Priory, Lewes.

In this connexion the only name that is worth an appreciative notice is that of Anthony Relhan, late President of the Royal College of Physicians in Ireland. He was the author of the first guide-book to Brighton, *A Short History of Brighthelmston*, and was also, I believe, one of the first to analyse scientifically "the bills of mortality." He showed conclusively by his figures that Brighton was at that time one of the healthiest towns in England. He also gave an analysis of the various waters found there—the well, the sea, and the "mineral spring." Relhan was elected President of the King's and Queen's College of Physicians, Dublin, but, having prescribed James's powder about the year 1758, the College of Physicians "resented this encouragement given to a quack medicine and refused to join him in consultation. Dr. Relhan then opened a correspondence with Dr. James, through whose persuasion he was induced to settle in London."[24] In 1764 Relhan married Lady Hart, widow of Sir William Hart, banker. The lady had a house in East Street, where they used to spend the season yearly.

About ten years after the death of Russel, Dr. Awsiter tried to revive the flagging interest of the public in the relief of disorders by the use of sea water as a remedy. In a pamphlet (published in 1768) he strongly advocates sea-bathing. "We should use exercise after bathing, and those who cannot should have their limbs well rubbed, and their bodies warmly but not hotly cloathed to renew a proper degree of perspiration." The baths lately erected (1759), after the plans of Mr. Golden, architect, near the Steyne, were also highly commended by Awsiter. "On one side of a spacious vestibule are six cold baths, on the other side are hot baths, sweating baths, and showering baths; the baths are supplied from the sea by means of an engine."[25] Awsiter recommended the use of sea-salt as a remedy for hydrophobia, and mentioned with approval Russel's suggestion that in such case the salt should be dissolved in urine, "whereby the power of the salt in destroying the acrimony and poisonous quality of sores and wounds is invigorated."[27]

*In all the early editions of Russel's and his contemporaries' works that I have seen, in which Russel's name appears, it is spelt with one "l."

On the other hand Dr. John Speed, in his *Commentary on Sea Water* (before quoted), says in reference to this subject that the value of a dip in cold salt water depends upon whether "it be done before the Patient is affected with the Dread of Water" when "it generally succeeds. After this it will do no good."[50] Speed was a scion of a large and brilliant Hampshire family, many of whose members are mentioned in the pages of the *Dictionary of National Biography*. He lived at Southampton, and made an extensive manuscript collection relating to that seaport, and now preserved in the municipal archives.[51] The *Commentary* with the details of his experiments on the composition of sea water, was, so far as I can ascertain, his only contribution to medical literature. Originally written in Latin, the translation was published by W. Owen, at his Original Mineral Water Warehouse near Temple-bar Fleet-street, and was by an eminent Physician. It was issued with a copy of Russel's work, and an abridgement of Rutty's work on the English Spas. Speed died in 1781.

Rabies was seemingly endemic in this part of England during the latter half of the eighteenth century. The disease was, according to the papers, by no means confined to dogs. Other domestic animals were occasionally affected. Both kine and swine often went mad, when bitten by a mad dog.

As regards human beings, although from time to time both children and adults were stated to have been bitten, there are few recorded cases of hydrophobia in the columns of the local journal.

A mad cow, previously bitten by a dog, was placed by itself in a paddock surrounded by a wooden fence. A farm hand looking over the fence was seen by the animal, which at once rushed at the man. Although the fellow was not hurt some of the slaver from the cow's nostrils fell on his face. "A few days afterwards he became violently mad, and died shortly" (1794).

Certain doctors obtained credit for skill "in the cure of canine and other madness." Patients were sent many miles to see them. How the cure was effected is not mentioned.

Interesting monsters sometimes appeared. On July 5th, 1773, a woman was delivered of a child whose head resembled a sheep's. During her pregnancy she longed for sheep's head, "but had not the wherewithal to purchase it." Again, on June 9th, 1788, "a white woman, the wife of a publican . . . was a few days ago delivered of a *black* child, whose colour the mother, for the satisfaction of her astonished husband, attributes wholly to the Force of Imagination whilst pregnant, having at that time had a most violent longing for *charcoal*."

Surgery had advanced during the last two hundred years. Many local practitioners were quite capable operators. Trephining for fracture of the skull was apparently the conventional method of treatment of such accidents.

A farmer who had received a kick "on the frontal bone that fractured his skull in a dreadful manner . . . was trepanned, and ten pieces of splintered bone were extracted from the fractured part." In another case a piece of bone "the size of a silver twopence" was successfully removed by a Lewes surgeon.

Abdominal operations were undertaken by the local doctors. A patient who had suffered from inflammation of the liver "had an incision made into that organ . . . when about a pint of fetid pus was discharged. . . . There are great hopes of the patient's recovery." A Lewes surgeon successfully cut a man for stone. Another man was operated on for "*bubonocele* or *incarcerated rupture*." Amputations and the reduction of dislocations were often undertaken.

Bleeding was resorted to as a remedy in all sorts of abnormal conditions. For instance, a man-servant fell down an area at Brighton, "whereby he was cut and bruised in so terrible a manner that he was taken up speechless and without signs of life. Mr. K., apothecary, blooded him and he was brought to himself." On the other hand, the following story shows that even then professional opinion was by no means unanimous as regards the value of that operation.

A distinguished nobleman lay ill, and the disciples of Galen who had assembled at the bedside could not agree as to the necessity of bleeding the patient. At last one of the doctors said he had a butcher ill with similar symptoms. "Suppose I go and order him to be let blood immediately. Then by to-morrow we shall know the result." Next day the medical council met early to hear the report of their colleague, who hastened into the room vehemently exclaiming, "No bleeding, no bleeding, the butcher is dead!"

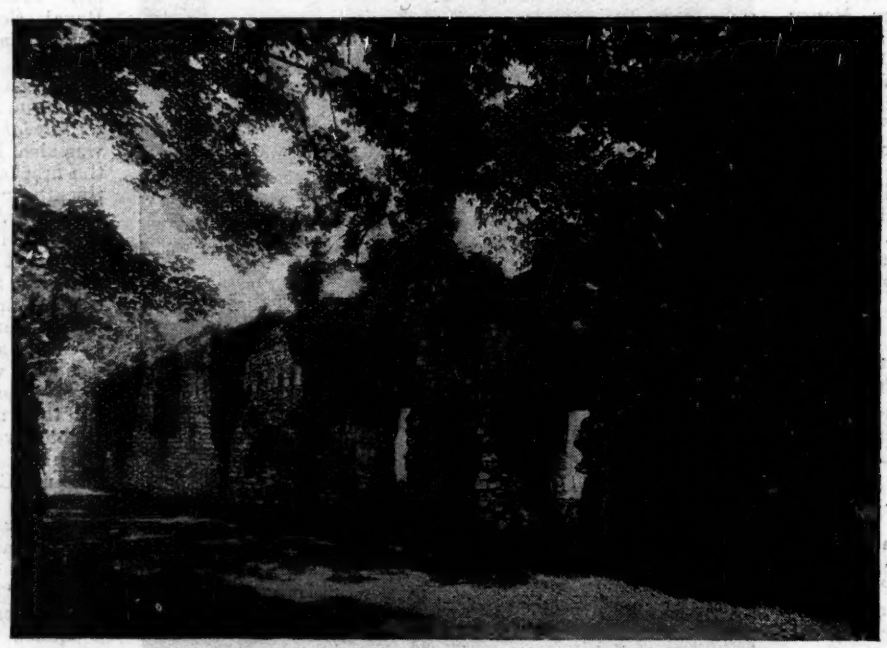


Fig. 4.—View of the ruins of the south wall (north aspect) of the "rere dorter," Lewes Priory, looking eastwards.

Mortification of the bowels was occasionally given as the cause of death, a cause which, thanks to the untiring efforts of a few illustrious pioneers in modern abdominal surgery, some of whom grace this meeting with their presence, is happily becoming rarer daily.

Deaths from acute alcoholic poisoning were comparatively numerous. The spirit consumed was usually geneva.

Suicides were not rare, especially of youths. One mode was by hanging to a tree branch; another method of self-immolation was by jumping down the domestic well.

During the last quarter of the eighteenth century several escapes from death by drowning were recorded in the *Lewes Journal*. In many instances after the victim's seeming death from prolonged immersion the recovery was attributed by the local doctor and attendants to "following and persevering in the directions given by the Humane Society" for the treatment of such cases.

The method of treatment, briefly, consisted in the removal of the wet garments and in the application of friction and warm wraps to the victim's body, and of stimulants to the mucous membranes. Finally, the operator, after pinching the nostrils with one hand, tried to blow air into the patient's lungs by applying his mouth to the other's lips (48).

At "inquisitions" on newly-born babes the "criterion" of stillbirth—when the lungs sink if placed in water—was well known. A local doctor in the columns of the *Journal* doubted the trustworthiness of the "criterion," and supported his contention by detailed experiments.

Even in those early days Sussex was riven by a woman's question—whether or no it was legal for

females to be appointed to "parish offices"—a topic warmly discussed by the local press.

A passing allusion may perhaps be permitted to that remarkable man, Thomas Paine, the free-thinker. Paine lived at Lewes as an exciseman about the middle of the eighteenth century. When, in 1792, the Attorney-General commenced a prosecution against Paine as the author of *Rights of Man*, the latter fled to France, where he was chosen member of the National Convention for the Department of Calais. Meanwhile rural Sussex occasionally celebrated his departure from their midst by burning his effigy in a bonfire.

Despite, or because of, the introduction of inoculation into England by Lady Mary Wortley Montagu in 1721, several outbreaks of small-pox occurred in this part of Sussex during the latter half of the eighteenth century. Inoculation was strongly advocated as a protection against the disease by the local doctors, and the operation appears to have been generally accepted by the people as a necessary, if regrettable, evil. At a vestry meeting at Brighton in 1780, again in 1786, and in January 1794 at Rye, Eastbourne, and at Brighton (after some opposition) general inoculations were decided on. At Brighton, with a population of 5,669, 2,113 were inoculated, "out of whom only 50 died"![28] Nevertheless three local doctors, who apparently were closely concerned in this widespread dissemination of variolous matter throughout the district, "considering themselves much injured by various wicked and malicious reports lately circulated," made affidavit "that neither of us did inoculate any person or in any manner introduce small-pox into the town of Brighton until a resolution had been passed for that purpose at a general meeting of the inhabitants."[32]

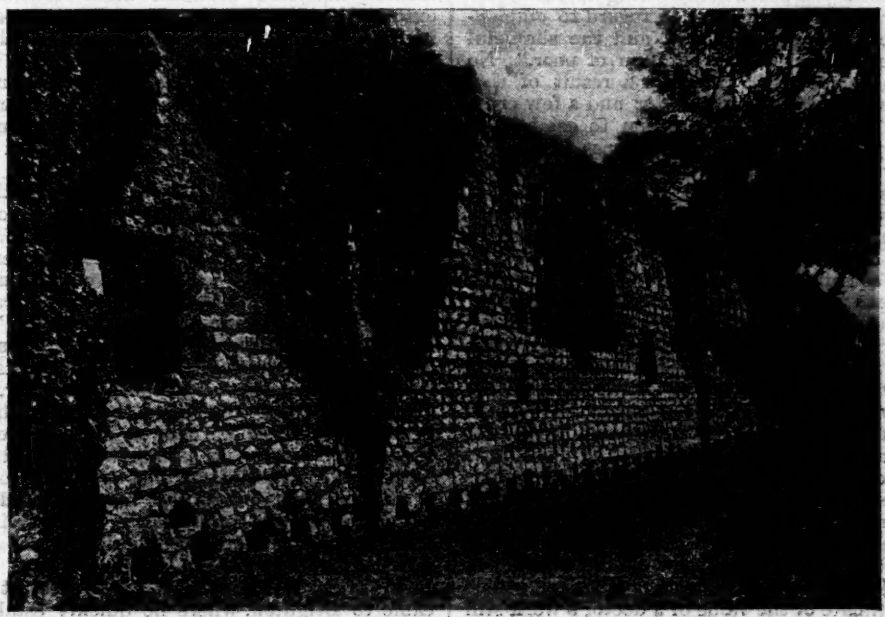


Fig. 5.—View of same wall (as in Fig. 4), looking westwards. The photograph shows the position of the "recesses," and the opening of the "cloaca" in the extreme distance.

At that time it seemed customary for wealthy patients after an inoculation to reside with their doctors for a while in order to be "conducted through the distemper." Several local doctors admitted—for a consideration—these parlous guests into their homes. One of the former, a Ditchling surgeon, repeatedly advertised in the *Lewes Journal* that "he receives patients for the operation for 4 guineas. . . . If they find their own wine, tea, and sugar, fee 3½ guineas."[33]

Besides recurrent outbreaks of small-pox and other infections, ague was at this time endemic in certain districts of Sussex. The mud-flats and lagoons at the mouths of the small tidal rivers and bournes along the coast were at certain seasons ideal breeding places for gnats and mosquitos. Although Jesuits' bark had been introduced into England by Sir Hans Sloane as the remedy for this disorder at the beginning of the century, the drug was far too rare and costly for the pockets of the Sussex yokel. So we read of a farm servant who was advised to take gin and pepper for an ague fit, "which advice he thankfully embraced." He imprudently drank nine quarterns of this hot liquor and died soon afterwards.[34]

The insanitary and poverty-stricken social conditions under which the bulk of the people lived,[35] were mainly responsible for the high death-rates that then prevailed. Although for many reasons any estimate of the death-rate per thousand of the living must during this century be somewhat rough, yet the figures to hand of the number of christenings and burials in London and elsewhere in this country are extremely suggestive. In London, for instance, the burials exceeded the christenings in 1780 and 1800.[36] At Lewes the weekly returns published in June and October, 1749 (the only ones available), both showed a large excess of burials over christenings. In December of the same year the actual numbers were 285 christenings and 550 burials![37] Several causes besides insanitary homes may have been responsible for these amazing figures. The birth-tax (7 Wm. III, 1695, and 23 Geo. III, 1783) levied on the parents each time a child was born, may have been responsible for some cases of concealment, and religious sentiment may have prevented a christening in others, yet even so, the enormous disproportion between the two sets of figures may be reduced, but they cannot be explained away by any reasonable argument.

Commencement of Nineteenth Century.

About this period Brighton became the happy hunting ground of charlatans and (medical) knights errant. Fashionable beauty in distress was much exploited.

In 1799 there lived in Artillery Place Mr. Nathan Smith, the inventor, patentee, and operator of an air pump for extracting the gout. The Artillery Baths, of which Smith was the proprietor, were frequented by many persons of rank and consequence, in order that they might undergo the special treatment he provided, and from which they derived much benefit.

The induction of a sudden change in atmospheric pressure over a painful joint or within a hollow viscus was a favourite mode of treatment. We have already seen that raising the air pressure in the victim's lungs (or stomach) was advocated in cases of suspended animation, and the lowering the air pressure in cases of gout was equally considered a rational form of cure. Mr. Teddy Palmer, a Brighton blacksmith, conceived yet another method of treatment, namely, by medicated air:

> It was on the eve of 1811, at a Christmas party, that the Regent, being tortured by toothache, consented to submit himself to an application of Mr. Teddy Palmer's magic fumigating process, which, it is said, gave the Royal sufferer relief in four minutes. Palmer . . . went to the Palace in his forge suit. By an ingenious arrangement of cylinders and tubes he directed a stream of smoke into the Prince's mouth, with the result described.[38]

To spas and sea water were also attributed powers which they do not possess. It was this faith in the unreal that gave birth to the idea of founding a German spa in Brighton in 1824 as a financial speculation. The building, situated on the east side of the town in the "new park," at one time supplied its frequenters with no fewer than thirteen different kinds of artificial spa water. It never became a successful undertaking.

Our only natural mineral spring issues from a rift in the side of the hill to the west of Brighton, and within the precincts of the borough of Hove. It is a chalybeate

water, and contains, according to Dr. Marcet's analysis, upwards of one grain of oxide of iron to the pint.[39] On the present occasion the Mayor of Hove has generously arranged to give a garden party to the Association in the grounds surrounding this chalybeate spring, and members will have an opportunity to examine the locality for themselves. When Brighton was emerging from the pupal condition of a fishing hamlet to its "butterfly" stage as a fashionable townlet these spas and springs were exploited for all they were worth by those interested in the growing popularity of the health resort. Now, however, our claims to popularity are, we trust, based on higher and broader grounds than the provision of matutinal doses of artificial *Carlsbad*, or natural *tonic* water to our patrons; and consequently these sources of income have almost entirely disappeared.

During the closing years of the eighteenth century the charitable public awoke to the parlous condition of a poor person when stricken by disease or injury; and many schemes were from time to time taken in hand by the wealthy to lighten this weighty shroud of misery. Meetings were held in Brighton and elsewhere to consider the question. At Lewes a meeting was held on January 24th, 1791, in favour of the establishment of houses of industry to supersede the poorhouses, owing to the latter *at vast expence* "neglecting the poor in regard to employment and insufficient support of them, and the shameful and pernicious inattention to the children of poor." No action seems to have been taken as a result of this meeting. However, Sir Godfrey Webster and a few energetic friends in 1796 started a subscription to establish a county dispensary for the three eastern rapes of Sussex. (The western division of the county was already provided for by a dispensary at Chichester.) Yet it was not till 1824 that the idea of a Sussex Infirmary and Dispensary was apparently on the eve of realization by the proposal to hire at first only a private dwelling-house.

The action of certain members of our profession may possibly have been indirectly and doubtless unwittingly the cause of the delay in the matter. At Brighton we read that a Dr. Henderson in 1794 was presented at a vestry meeting with a silver cup "for his care of the parish." And in 1803 Dr. Bankhead's offer to attend the poor gratuitously was accepted by the churchwardens of Brighton.* To my mind both these statements imply that even in those early days the officials of the Poor Law service looked to the medical profession to give their valuable services for nothing. Even then free medical advice and attendance were no longer regarded by the laity as a charitable subvention, but rather as a legal right and a popular necessity. Since those days the purview of wealthy benevolence has not materially changed. The same exoteric estimate of the value of a doctor's work still seemingly permeates recent legislative enactments.

During the first quarter of the nineteenth century dispensaries, sea-bathing infirmaries, and hospitals were founded and opened for the relief of the sick poor in Brighton and other Sussex towns. Special institutions were also established for the treatment of special disorders, until the Sussex yokel had no need to envy the tillers of old Egypt's fertile soil in that regard.[41] The most important of these charities have already been enumerated and described in the BRITISH MEDICAL JOURNAL and in the guide-book; it is unnecessary for me, therefore, to do so here.

Although their homes were insanitary and their food coarse, Sussex labourers were often long-lived. Nonagenarians were not uncommon, and centenarians were from time to time mentioned in the columns of the *Lewes Journal*. On the other hand, the death-rate of young children was high. Infectious fevers (for example, small-pox, measles, and whooping-cough) were very fatal. Mysterious deaths were occasionally noted. Several soldiers at Silver Hill died suddenly on September 24th, 1798. *Post mortems* showed that death was "in every case due to eating too freely of nuts"!

If we may judge from the number of cases recorded in the *Lewes Journal*, it was by no means an unusual incident for women of the poorer classes to be confined by the wayside whilst going to or from their work. However, the following is an exceptional case: A pregnant woman, while walking along the street, unknowingly dropped her fetus, which a surgeon, who received it from a passer-by, promptly placed in spirits! Another woman, whilst walking to Clayton, delivered herself of a child by the roadside; this infant she wrapped in her dress and walked a quarter-mile, when she had to deliver herself of the twin![40]

Coroners' quests were rarely, if ever, held on corpses—jetsam on the sea-shore. The body was usually buried in the shingle without inquiry. On the other hand, when an "inquisition" was held and the evidence of a medical expert taken, the resulting verdict was not always convincing. At an inquest on the death of Miss C., after a carriage accident, Sir L. P., a great surgeon, was called to give evidence. "After examining the skull," he stated that "there was no fracture, and only a small contusion on the left side of the head. There was no other mark on any part of the body, but the witness can safely say that it was the cause of death." Verdict, "Accidental death."[42]

In 1824 Conolly, at one time "operating surgeon to the Brighton Dispensary," was sentenced to transportation for life for the murder of a sheriff's officer. The murder was committed at Rabley House, near Shenley Hill, Hereford.[43]

DISEASE AND DEATH-RATES DURING THE LAST 120 YEARS.

Perhaps the most far-reaching change in the history of modern medicine occurred when vaccination with its extremely mild sequelae was definitely substituted for inoculation with the actual virus of small-pox. As we have already learnt, the summoning of a vestry in a Sussex town to consider the propriety, whenever small-pox was prevalent, of ordering a general inoculation of the residents was an incident frequently noted in the local press. As a rule the operation was carried out by faithful surgeons with no very untoward results; the death-rate in some cases was less than 0.1 per cent. of the inoculated.[36] On the other hand, there was always a compact body of professional and lay opinion opposed to these extreme measures—the deliberate conviction of men who believed in other methods of combating a contagious disease than by the wholesale multiplication of fresh cases, men who thought that "airiness and cleanliness" or even cold bathing were rational methods of treatment.[44] The opinion of this growing body of opponents was, towards the end of the eighteenth century, unexpectedly strengthened by the high mortality that followed a general inoculation in one or more Sussex town. Fortunately for suffering humanity Edward Jenner introduced in 1799 vaccination as a substitute for inoculation.

At that time one of his most devoted followers and admirers was an enthusiastic young Irishman, named Matthew John Tierney. Tierney both advocated and practised vaccination as a preventive of small-pox. In 1802, after taking his M.D. degree at Glasgow, he came to Brighton, where he quickly established a reputation as a highly accomplished physician. In 1809 he was appointed Physician in Ordinary to the Prince of Wales. About this time he was knighted, and he subsequently became Physician in Ordinary to the Kings George IV and William IV. He died at Brighton in 1845.

Another pioneer in vaccination was Dr. Badcock, the honoured ancestor of a well-known Brighton practitioner. The former also lived in this town, and it was here that he succeeded in 1840 in producing cow-pox by inoculating the animal with small-pox virus, so confirming the experiments of Ceely in the same direction. Badcock vaccinated children with the matter from the cow in the first instance, and then by arm-to-arm transference handed down the "modified small-pox" for some years, I believe.

In 1851 (August 14th) the Provincial Medical and Surgical Association held its annual meeting at Brighton under the Presidency of Dr. William King, late Fellow of Peterhouse, Cambridge, and Senior Physician to the Sussex County Hospital. His address, which was somewhat discursive, treated, amongst other matters, of the therapeutic value of artificial mineral waters prepared by a new recipe which he disclosed.

The Provincial Medical and Surgical Association on October 17th, 1874, was transformed into the British Medical Association in a memorandum of association signed by fourteen original members.

Thomas Addison, the discoverer of the disease of the suprarenal capsules which bears his name, retired here in broken health after an active life in the metropolis, and died at Brighton in 1860.

*As regards the two medical men just mentioned, R. Henderson was a Scotsman. He took his M.D.Edin. in 1791. Subsequently he was appointed physician to the forces. He died at Brighton in 1808. Charles Bankhead was born at Antrim, 1767. He took his L.R.C.P. Lond. in 1807. He was for some time surgeon to the Londonderry militia. At the beginning of the nineteenth century he resided at Brighton, and was appointed Physician Extraordinary to the Prince of Wales and to King George IV. He died at Florence, 1859 (Munk's Roll of Royal College of Physicians of London).

William Addison also lived here. He was a Fellow of the Royal Society. In 1845 he stated that the white corpuscles could pass through the blood vessels.

William Withers Moore, D.C.L., M.D., F.R.C.P., who was President of this Association on the occasion of its last visit to Brighton in 1886, was born at Doncaster in 1823, and was the third son of John Moore, surgeon. Moore was educated at Doncaster and at University College, London. He took the M.D.Edin. He practised both in Doncaster and in Brighton. At the time of his death, which took place of angina in 1894, he was consulting physician to the Sussex County Hospital. Dr. Moore selected as the subject of his presidential address, "The higher education of women." His opinion may be gathered from the following extract:

"I think that it is *not* for the good of the human race . . . that women should be freed from the restraints which law and custom have imposed upon them, and should receive an education intended to prepare them for the exercise of brain power in competition with men."[45]

I should this evening be sorry to endorse these words as the considered policy of the President of this Association. As regards the great sex question, public opinion has changed during the last seven and twenty years; and women look upon the question from a different view-point to that they then held. The British Medical Association has always welcomed lady diplomats in medicine as honoured members of its body, and it has extended to all its members equal privileges regardless of sex. I trust that this truly democratic spirit will always pervade its policy.

NOTE.—My best thanks are due to Messrs. E. F. Salmon, Pepys, and Dr. Chaffey for loan of books; and to the official staff of the Brighton Public Reference Library for much valuable assistance.

REFERENCES.

1 Lecture by H. S. Toms, Curator of the Brighton Museum.
2 BRITISH MEDICAL JOURNAL, 1912, ii, p. 1069.
3 BRITISH MEDICAL JOURNAL, 1912, ii, p. 1719 and p. 1763; *Nature*, xc, p. 438; *Illustrated London News*, December 28th, 1912.
4 T. Johnson's translation of Parey's work (edition 1649), p. 242.
5 *The Cluniac Priory of St. Pancras*, by W. H. St. John Hope, M.A. (*Sussex Archaeological Collection*, xlix, pp. 66 et seq.).
6 *A Short History of Brighthelmston*, by Anthony Relhan, Fellow of the Royal College of Physicians of Ireland, 1761, p. 11.
7 The gablum was paid in kind usually; in the present case, the tax was 4,000 herrings or mackerel yearly (*History of Brighthelmston*, by J. Ackerson Erredge, 1862, p. 14).
8 *Nature*, xc, p. 623.
9 *A Day's Ramble in and about the Ancient Town of Lewes*, by Gideon Algernon Mantell, LL.D., F.R.S., 1846, p. 65, note.
10 34 Henry VIII, c. 11.
11 *Handbook for Lewes*, by M. A. Lower, second edition, p. 36.
12 *Eight Chirurgical Treatises*, by R. Wiseman, fourth edition, p. 234.
13 Ibid., p. 246.
14 Erredge, op. cit., p. 53.
15 *Social Condition of Sussex in 1631-32*, by W. D. Cooper, F.S.A. (*Sussex Archaeological Collection*, xvi).
16 Ibid., p. 28.
17 BRITISH MEDICAL JOURNAL, 1913, March 15th.
18 *Dictionary of National Biography*.
19 *London Hospital Gazette*, "Some Doctors of the Stuart Period," by Dr. S. D. Clippingdale, April and May, 1912. See also *Lancet*, 1912, i, p. 1769.
20 Ibid.
21 Erredge, op. cit., p. 50.
22 *Commentary on Sea Water*.
23 *The Pepys Family*, 1887, Bell and Sons.
24 Introduction to reprint of Relhan's work by J. C. Michell, 1829.
25 *Dictionary of National Biography*.
26 Report of Humane Society, 1777, pp. 77–84. (This work was kindly lent me by Major Claughton, the Secretary.)
27 Awsiter, op. cit., p. 13.
28 *History of Brighthelmston*, edited and published by Wm. Lee, 1795, p. 490. (This work, originally issued in parts to subscribers, contains many extracts from the *Lewes Journal*.)
29 *Brighton New Guide*, printed for F. G. Fisher. 1800, p. 22.
30 *Comment.*, p. 166.
31 *Dictionary of National Biography*.
32 *Sussex Weekly Advertiser*, 1794, February.
33 Ibid., ubique.
34 Ibid., 1760, December 15th.
35 Vide antea (15).
36 *Haydn's Dictionary of Dates*.
37 *Lewes Journal*, 1749.
38 *Sussex Daily News*, 1912, May 12th.
39 Sickelmore's *History of Brighthelmston*, 1824, p. 86. It is probable that the iron in the form of carbonate is held in solution by carbonic acid.
40 *Lewes Journal*, 1794, August 25th; and ibid., 1797, September.
41 *Herodoti de Bello Persico*, lib. B, 83.
42 *Brighton Herald*, 1806, October 11th.
43 *Brighton Gazette*, 1824.
44 *The Valetudinarian's Companion*, by Loftus Wood, 1782, p. 55.
45 BRITISH MEDICAL JOURNAL, 1886, vol. ii.

DR. ALFRED OCTAVIUS GROSVENOR, who was in practice in Hampstead for many years, and died last May, left estate valued at £21,214.

Address in Medicine

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

GEORGE R. MURRAY, M.A., M.D., D.C.L., F.R.C.P.,

PROFESSOR OF SYSTEMATIC MEDICINE IN THE VICTORIA UNIVERSITY OF MANCHESTER; PHYSICIAN TO THE MANCHESTER ROYAL INFIRMARY.

SOME ASPECTS OF INTERNAL SECRETION IN DISEASE.

MR. PRESIDENT, LADIES AND GENTLEMEN,—The Address in Medicine has always been a notable feature of the Annual Meeting of this Association, and I fully realize how great is the responsibility of any physician who is fortunate enough to be called upon to occupy my present position. I wish, therefore, to thank you, Sir, the Council, and the whole Association, for the honour you have thus conferred upon me. On this occasion it has often been the custom to take a general survey of some branch of medicine and to endeavour to indicate the trend of the teaching of the day and its practical application in some particular direction. In this way an address may serve the useful purpose of reviewing recent progress and also, perhaps, of checking too exuberant hopes which at times are apt to outrun sound judgement. So much that is new is constantly being brought to our notice that it becomes increasingly difficult to estimate its bearing on our daily work. In our anxiety to advance we are in danger of over-estimating the value of what is new and untried at the expense of what is old and well known, whereas we should be:

First to face the truth and last to leave old truths behind.

During the last five and twenty years more and more interest has been taken in the functions and diseases of the ductless glands as their importance has gradually been recognized. Previous to this period, although the structure of these bodies had been described, very little was known as to their functions. Thanks to the efforts of a large number of workers our knowledge of these organs has been largely increased, and the results of their labours have now been brought within the reach of all in the valuable works recently published by Biedl, by Swale Vincent, and by Falta.

It would, I venture to think, be worth while to take a brief survey of a portion of this large field of inquiry, and to consider some aspects of internal secretion in disease. It is so easy to speculate as to what may be the function of a ductless gland and so difficult to find out what it really is, that we are apt to fail to distinguish between what has really been ascertained and what is still largely theoretical. This is most unfortunate, as rash speculation on the function of a gland may only lead to erroneous conclusions as to the pathology of its morbid states, and in the end impede rather than accelerate our progress towards the acquisition of reliable methods of treatment. The great importance of bio-chemistry in pathology is now being more fully recognized, and we are gradually learning that many diseases are due to the failure or perversion of normal chemical processes in which the ductless glands play an important part.

It is essential to have a clear conception of what secretion really is, and to define the difference between external and internal secretion as the latter term has been used with considerable latitude by some writers. It was pointed out by Johannes Müller in 1844 that secretion consisted of the active formation of a definite chemical substance by an organ for further service in the body, whereas excretion was simply the process of removal from the blood of substances already formed, but of no further use, and therefore to be got rid of as soon and as easily as possible. This hard and fast line cannot always be drawn, but it serves as a general means of distinguishing secretion from excretion. Claude Bernard in 1855 first showed that glandular secretions might be either external or internal, according to their mode of exit. An external secretion is one which, like the bile, leaves the gland by a duct, and passes out to a free surface. An internal secretion, on the other hand, passes from the gland, either directly or

indirectly into the blood, by which it is conveyed to its destination. Bernard, however, regarded all the products which pass into the blood stream from the organs as internal secretions. We now, however, reserve the name for the useful products of the activity of certain glandular cells which pass into the blood stream in order to play some definite part in metabolism. Thus we do not include the supply of the formed cells by the bone marrow, which, although they form an integral part of the blood, are not themselves a secretion. Nutrient substances which are conveyed by the blood stream, such as albumin from the alimentary canal or sugar formed from hepatic glycogen, are not internal secretions in the strict sense of the term. The mode of action of the internal secretions is still obscure, but our knowledge of their effects is gradually expanding. Generally speaking, ductless glands act on other tissues at a distance by means of substances, for which Starling has suggested the name hormones, which are conveyed by the blood stream to the cells for which they are destined. The cells of a gland have the property of forming one or possibly more hormones, each of which has the power of exciting a definite form of chemical activity in those cells for which it has a special affinity. It must, however, be remembered that there may be substances formed which, instead of activating, may control or inhibit chemical action. To such bodies the somewhat contradictory term "inhibitory hormones" has been applied by Biedl. The normal metabolism of the tissues in health is maintained at its proper level by an adequate supply of hormones from all glands which secrete internally. This conception of the mode of action of these glands serves to indicate how complex and variable in composition is that important fluid tissue, the blood, which thus serves as a carrier of so many important bodies. We do not know in what form the hormones are conveyed. They may be in solution or in suspension in the blood plasma or they may be attached in some way to the red or to the white corpuscles. Whatever the actual method of convection may be, we know that the normal blood carries this out efficiently. We do not know how far this function of the blood may be affected by such changes as occur, for example, in leukaemia and in other diseases which alter its composition.

The function of a ductless gland may be affected by disease in different ways. Progressive atrophy gradually diminishes and finally cuts off the supply of its particular secretion, while some special forms of hypertrophy are accompanied by an increase in the amount of secretion which may or may not be normal in composition. We have thus in the case of each gland to consider the results of changes in both the quantity and the quality of its secretion.

The most important ductless glands are the thyroid, parathyroid, pituitary, and suprarenal glands. Other glands such as the pancreas, the generative glands, and possibly others, supply both an external and an internal secretion. In these glands, however, we find that the two forms of secretion are supplied by different sets of cells, and that one set may fail while the other continues active in function. Thus in the generative glands spermatogenesis may cease while internal secretion persists.

The effects of disease upon internal secretion can be observed most easily in the case of the thyroid gland, in which the structure is simple and the secretion can be seen stored in the alveoli surrounded by the epithelial cells by which it has been formed. The secretion is stable, and is easily obtained from the healthy gland in an active form as either a liquid extract or a dry powder. When this gland atrophies, its secretion gradually fails and the characteristic symptoms of myxoedema slowly develop. The typical symptoms of the malady are so well known that no description is necessary, but it is remarkable that in spite of the striking appearance presented by any one suffering from this disease, well-marked cases are still to be seen in public places going about apparently unrecognized and untreated. The slight and early forms of the malady may easily be overlooked. In some of these cases the filling up of the lines of the face and the pink flush on the cheeks impart a fictitious appearance of good health which deceives all but the trained observer. In middle-aged women who complain of lassitude, chilliness and other subjective sensations associated with slight dryness of the skin, some loss of hair, and a little thickening of the subcutaneous tissues—to mention but a few of the signs of slight thyroidal insufficiency—it is well to remember that a partial atrophy of this gland may be the cause of the symptoms. A course of treatment by thyroid extract will soon be followed by a steady improvement if the diagnosis is correct. In some cases the atrophy appears to become arrested at an early stage and to progress no further for a long period. In one of my cases, in which enlargement and induration of the gland were associated with diminished functional activity, slight symptoms of myxoedema had been present for as long as ten years. In these cases a portion of the gland is still able to produce a small but insufficient supply of secretion. It is possible, though actual proof is still lacking, that in some of these cases the surviving portion of the gland may, after a time, by a process of compensatory hypertrophy, be able to supply a sufficient amount of secretion to remove the symptoms. In order to settle this question careful observations continued for a long period are required so as to ascertain if a slight case of myxoedema ever does recover spontaneously, or if after the symptoms have been removed by treatment it is possible for the patient to remain in health when the treatment is stopped. It is to those engaged in general practice that we must look for a solution of this and other similar interesting clinical problems. It is much to be desired that more records of disease as seen from day to day in private practice were available. As an illustration of their value I would refer to the many interesting observations made by Mr. Arthur Maude of Westerham in the cases of Graves's disease in his own practice.

It appears that a considerable amount of destruction of the secreting tissue may take place without producing symptoms, but that beyond a certain point very little further change may induce well-marked symptoms. In a case of ligneous thyroiditis, recently reported by Mr. Southam and myself, the removal of a portion of the diseased gland, in which only the remains of a few glandular alveoli were found on microscopical examination, was quickly followed by the onset of myxoedema. In secondary myxoedema induced by thyroidectomy the symptoms are the same as in the primary form, but naturally the onset is more acute and the symptoms more severe, owing to the sudden and possibly total loss of the secretion. In cretinism we see the dire results of lack of thyroid secretion in childhood, and are able to realize what an important function is carried out by the thyroidal hormones in stimulating normal bodily growth and mental development during the early years of life.

Careful study of the clinical symptoms of myxoedema and cretinism and of the results of total thyroidectomy in man and in animals of different species and at different ages have furnished us with a great deal of information as to what occurs when the supply of thyroidal hormones either partially or entirely fails. Metabolism is diminished and less albumin is required. The interchange of gases is diminished, so that less oxygen is absorbed and less carbon dioxide is given off than in health. The efficiency of the heart is impaired, and in time the myocardium undergoes degenerative changes. The normal growth and activity of the skin with its glands, and of the nails and hair, is notably lessened. In young subjects growth and mental development are retarded or arrested, and no development of the reproductive system takes place at puberty.

In the case of failure of the thyroid gland in man we are able to supply all the necessary hormones in an active state from one of the lower animals, and can regulate the supply to such a nicety that perfectly normal health may be enjoyed for many years by a person whose thyroid gland has entirely disappeared, and who would otherwise, if still living, be existing as a complete invalid in "the gloomy calm of idle vacancy" of advanced myxoedema.

It may be of historical interest to briefly review the steps by which our present knowledge of the function of the thyroid gland has been attained. Only forty years ago Sir William Gull gave us the first account of myxoedema under the name of "a cretinoid state supervening in adult life in women," by which he indicated its relationship to sporadic cretinism already described by Hilton Fagge. Four years later W. M. Ord published five cases, in one of which atrophy of the thyroid gland had been found by Professor

W. S. Greenfield, and gave the name of "myxoedema" to the disease. The symptoms which follow total thyroidectomy were described by J. L. Reverdin in 1882 and again in the following year by Professor Kocher of Berne as *cachexia strumipriva*. Soon after this, J. L. and A. Reverdin, recognizing the likeness of the condition to myxoedema, suggested the name *myxoedème post-opératoire*. In this country Sir Felix Semon, realizing the remarkable clinical similarity between myxoedema and cachexia strumipriva, suggested that both alike were due to loss of function of the thyroid gland. At this point the further investigation of this relationship, important alike to physicians and surgeons, was taken up by a special committee of the Clinical Society of London. The report of this committee will ever serve as a guide to the method in which such investigations should be made. The experimental work of Sir Victor Horsley, together with the clinical and pathological material collected by the committee, clearly demonstrated that cretinism, myxoedema, and cachexia strumipriva are due to loss of the thyroid gland by disease or removal. The foundation of our present method of treatment had even then been laid by Schiff, who had shown that successful transplantation of a thyroid gland in the dog sufficed to prevent the development of the symptoms which usually followed its removal. This observation was confirmed by von Eiselsberg. In 1890 Sir Victor Horsley drew attention to these important experiments, and suggested that thyroid grafting should be tried as a means of arresting the progress of myxoedema. The adoption of this suggestion was followed by remarkable diminution in the symptoms. Owing, however, to the failure of the graft the improvement was temporary. In Bettencourt and Serrano's case the improvement began the day after the operation, and, as they pointed out, was due to the immediate absorption of the contents of the grafted gland. These observations led me to the conclusion that good results would be obtained by the continued internal administration of the secretion in the form of an extract of the gland. In order to test this I dissected out the thyroid gland of a sheep as soon as it was killed, and prepared the glycerine extract, which is now official under the name *liquor thyroidei*. This was periodically injected beneath the skin of a patient, who fortunately was willing to allow the experiment to be tried. It is now just twenty-two years since the successful result of that treatment was communicated to the annual meeting of this Association held at Bournemouth in 1891. Although the hypodermic method of administration served its purpose in demonstrating the efficiency of the remedy and conclusively proved that the function of the thyroid gland was to supply an internal secretion, in actual practice it had many drawbacks, which fortunately were removed the following year, when Dr. Hector Mackenzie and Dr. E. L. Fox in this country and Howitz in Copenhagen showed that the extract was equally active when given by the mouth.

It may be mentioned that this first case of myxoedema treated by thyroid extract is still alive and well, a condition of health being maintained by a dose of 10 minims of liquid thyroid extract each week day, or 6½ oz. in the course of the year. Less than a gallon of thyroid extract in all has therefore maintained her in health for twenty-two years. No variation of the dose has been found necessary. In some cases the best results can only be obtained by adjusting the dose from time to time according to the physiological requirements in a manner which some patients learn and do accurately for themselves. So complete is the recovery that, provided the climacteric period has not been reached, the functional activity of even the reproductive system may be completely restored. For example, I recently saw a woman, aged 50, in whom myxoedema had developed eleven years before. Recovery took place under treatment, and four and a half years later she bore a healthy child after a normal pregnancy. The whole function of the thyroid gland can therefore be carried out in man by a constant and adequate supply of thyroidal hormones obtained from one of the lower animals in the form of thyroid extract for any required length of time after the natural supply has failed owing to destructive disease of the gland.

The treatment of cretinism is more difficult, as the dosage of the extract requires a nice adjustment to the varying physiological requirements of childhood in order to secure the best results. When treatment is started early in life and is carefully regulated, all the signs of cretinism may disappear and the child develop both mentally and physically in a normal manner. One such successful result is in the case of the daughter of a medical friend, where the dosage has been most carefully regulated, almost from day to day, by slight signs which have been found to indicate when larger or smaller doses are required. In many cases, however, mental development is slow while bodily growth is rapid. It appears to be specially desirable that in countries where cretinism is endemic adequate continuous treatment should be supplied by the State for all cases from the earliest age onwards.

Thyroid extract naturally finds its fullest opportunity in this supplemental treatment of the various forms of thyroidal insufficiency. Owing to its physiological property of stimulating metabolism and to the iodine it contains, the extract has also been found useful in conditions in which there is no definite evidence that the normal supply of hormones is deficient. The marked emaciation caused by excessive secretion in exophthalmic goitre indicates its employment in obesity, and in some cases good results are obtained, especially if a suitable diet is adopted at the same time. Good results have also been recorded in the treatment of rickets, rheumatoid arthritis, and nocturnal enuresis. The rapid improvement which takes place in the condition of the skin of cases of myxoedema during treatment induced Dr. Byrom Bramwell to employ the extract with conspicuous success in the treatment of psoriasis and other cutaneous diseases. Sir Malcolm Morris has recently dealt fully with the relationships of the internal secretions to dermatology, and has shown how important a part is played by the glandular extracts in the modern treatment of diseases of the skin.

Not only may disease be due to failure of glandular secretion, but it may be the result of the opposite condition of abnormal activity. The secretory activity does not necessarily depend on the size of the gland. Very great enlargement of the thyroid gland may take place in some forms of goitre without any excess of secretion passing into the blood, whereas in Graves's disease a slight increase in size may be accompanied by symptoms of active hypersecretion. Slight enlargement may take place in response to special physiological requirements; thus the pituitary gland enlarges during pregnancy, and the thyroid gland at puberty and during menstruation. This physiological enlargement of the thyroid during adolescence may, however, become pathological in the form of a simple parenchymatous goitre. In the early stages this will subside when the demand for more than the usual supply of hormones is made good in the form of suitable doses of thyroid extract by the mouth. Before undertaking this treatment in these cases it is of great importance to make sure that no symptoms of hyperthyroidism are present, or a mild incipient case of Graves's disease may unwittingly be aggravated. The results of hyperactivity of the thyroid gland are seen in the various grades of exophthalmic goitre. We are still anxiously seeking for an explanation of the development of this morbid activity, which comes on sometimes rapidly, sometimes slowly, persisting, it may be, for a few months only, or continuing unabated for years. If we knew what causes the characteristic change in the thyroid gland in consequence of which it pours such a flood of secretion into the circulation, we should be in a much better position to treat the disease in a rational manner.

As is well known, the symptoms of Graves's disease are the reverse of those of myxoedema; the organs and functions which in myxoedema are sluggish and inert, for want of the normal hormones, in Graves's disease are worked at high pressure owing to their excessive supply, and the symptoms of the disease are but the outward expression of this glandular hyperactivity. The respiratory interchange of gases is increased by 50 per cent. Magnus Levy has estimated that the amount of oxygen absorbed may even be increased by as much as 70 or 80 per cent. The increased caloric production is compensated for by heat regulation, so that the rise of temperature in Graves's disease is only slight. Sugar toleration is reduced and glycosuria may occur. The relationship of Graves's disease to diabetes will, however, be referred to again later

There are some interesting results of this increased metabolic activity which are appreciated by patients themselves and may serve as a guide to treatment in some cases. Those who have been previously liable to chilblains lose them entirely during an attack of Graves's disease; they also acquire for the time being an almost complete immunity to ordinary colds, so much so that a return of a liability to chilblains or to ordinary colds is often an indication that the hyperactivity of the thyroid is diminishing and that the patient is improving. Another interesting point is the relationship between Graves's disease and tuberculosis; speaking from personal experience only, I have found that pulmonary tuberculosis rarely occurs in uncomplicated cases of exophthalmic goitre, and when it does it is usually limited in extent and activity. I say uncomplicated because in two interesting examples of pluriglandular hypersecretion, to which further reference will be made, pulmonary tuberculosis was present. The following experience also lends support to the view that a condition of hyperthyroidism has some influence on tuberculous infections. In a severe case of Graves's disease, in which only physical signs of bronchitis could be discovered, tubercle bacilli were found in the sputum. It was, for reasons I need not now detail, decided that a portion of the thyroid gland should be removed; this was successfully carried out by Dr. Mamourian, with whom I saw the patient. For a fortnight all went well; at the end of that period the tuberculosis became active, and the patient died a month after the operation from acute tuberculosis of the lungs. This experience shows that in these uncommon cases thyroidectomy should not be undertaken. This apparent resistance to infection is probably due to the increased activity of the metabolism of the tissues rather than to any direct action of the thyroid secretion, for tubercle bacilli can actually grow in the thyroid gland itself, as is shown by the presence of miliary tubercles and of caseous tuberculous nodules in it in some cases of tuberculosis.

One remarkable feature of the clinical course of Graves's disease is the variability of the symptoms, which in its most marked form is evidenced by the occurrence of crises. We see in some cases general crises of acute thyroidism—that is to say, periods during which almost all the symptoms are aggravated for the time being. The pulse is greatly increased in frequency up to 200 or more per minute; there is great nervous agitation and restlessness, increased tremor, sweating, vomiting, and diarrhoea. These attacks are alarming and dangerous, and in some cases prove fatal within a few days. These general crises are evidently due to a sudden increase in the activity of the thyroid, resulting in the discharge of a larger amount of secretion into the blood stream. Still more interesting is the occurrence of local crises during which, perhaps, a single symptom becomes greatly increased, or one organ or system alone is suddenly thrown into a state of extraordinary activity. Thus some patients are liable to cardiac crises, during which, for no apparent reason and even when resting in bed, the pulse-rate suddenly increases from 120 to 200 or more per minute. This may last for some hours, or may subside more rapidly after the application of an ice-bag to the precordium. In other cases we see cutaneous, bronchial, gastric, or intestinal crises, characterized by profuse sweating, bronchorrhoea, vomiting, or diarrhoea, as the case may be. The occurrence of these localized forms of hyperactivity suggests that possibly thyroid secretion is polyvalent, and contains different hormones which are capable of activating different ogans. One may activate the sweat glands and hair follicles, another the heart, another the bronchial mucous membrane, and so on. In Graves's disease it would appear that there is possibly not only an increase in the amount of thyroidal secretion formed and absorbed, but that in some cases the proportion between the different ingredients of the secretion may vary in different cases and at different times in the same case. A sudden temporary increase in the substance which activates the skin, for example, would account for a cutaneous crisis, whereas a general crisis would be caused by an increase in the secretion as a whole. We are specially in want of further information as to the mode of action of the thyroidal hormones on the heart. The disastrous results of their excessive action is only too apparent in the dilated and degenerated hearts of some advanced cases of Graves's disease in which death occurs from some sudden cardiac failure. In some mild cases of hyperthyroidism the cardiac symptoms are the most striking and have given rise to the term "goitre-heart." Under this name, however, two separate conditions have been included. One variety is thyrotoxic in origin and is due to excessive thyroidal secretion, the effects of which are shown chiefly by enlargement of the left side of the heart. The other variety is mechanical in origin, and attention appears to have been drawn to it first by Rose of Zurich in 1877. This form of goitre-heart is due to the tracheal stenosis caused by a goitre. It is the result of the prolonged dyspnoea and results in enlargement chiefly on the right side of the heart. It has been shown experimentally by H. Ströpel that tracheal stenosis experimentally produced in cats causes an enlargement of the heart. It is this latter form of goitre-heart which is a source of danger in operations on cases of goitre with prolonged tracheal stenosis. In certain cases the two forms are probably combined, as it is quite possible to have a goitre which both compresses the trachea and also over-secretes. Fortunately, in the great majority of cases of Graves's disease there is no compression of the trachea.

We do not know in what manner the thyroidal hormones produce the rapid rhythm of the heart which is so constant a symptom in Graves's disease. We can produce the tachycardia in a healthy subject by giving large doses of thyroid extract, which, however, does not appear to influence the ventricular rhythm directly. I have recently had under my care in the Manchester Royal Infirmary a case of complete heart-block in which polygraph tracings showed that while the auricles were beating 68 times a minute, the ventricles had an independent rhythm of 28. The radial pulse only varied between 21 and 28 during the whole time he was in the hospital. In this case the continued administration of three 5-grain thyroid tabloids a day did not produce any acceleration of either the auricular or the ventricular rhythm. Dr. James Mackenzie has, however, found that other conditions which usually accelerate the pulse in health, such as excitement or alcohol, have scarcely any effect upon the ventricle in cases of heart-block. I have not come across any record of a case of heart-block in a patient suffering from Graves's disease. Such a combination, if it ever occurs, would be of great interest.

The considerable number of cases of Graves's disease in which partial or complete recovery takes place shows that the diseased gland is capable of returning to a normal state of activity, but we have still to ascertain precisely under what conditions this favourable result is obtained. General hygienic, medicinal and electrical treatment is followed by gradual improvement and recovery in many cases, but we much require some more rapid means of treatment. The application of suitable doses of *x* rays to the enlarged thyroid gland has in some of my cases proved to be of great value. The gland gradually diminishes in size, and the other symptoms subside. Atrophic changes in the secretory epithelium and both interstitial and extra-capsular fibrosis appear to be induced by the action of the rays. These adhesions between the capsule and the surrounding structures are, however, a disadvantage should a subsequent thyroidectomy be required. In two of my cases in which *x*-ray treatment was not successful, one lobe of the gland was excised. Microscopical examination showed no fresh change in one but a distinct increase in the interalveolar connective tissue of the other. These changes are slow in development, so that the full effect of the treatment is not obtained until some months have elapsed. In favourable cases some fifteen to twenty weekly doses of the rays have been sufficient to bring about great improvement or practical recovery, but in others only slight improvement has followed a similar course of treatment. It is worth while to persevere with *x*-ray treatment for as long as a year if slow but satisfactory progress is being made. We have, however, still much to learn as to the most appropriate dosage and mode of application of this valuable method of treatment.

The late Dr. Gibson, whose early death we so greatly deplore, in his eloquent address last year described the remarkable improvement he had observed after the employment of suprarenal extract, which he considered "to have no rival in the management of this affection." Useful as this remedy is in some cases, my experience of

its use has unfortunately not been so favourable as his. The use of a special cytotoxic serum which would induce an atrophy of the thyroid gland has not been satisfactory. Unfortunately a cytotoxic serum is not altogether selective in action, and induces changes in the cells in other organs as well as in the thyroid gland itself. Thyroidectin, though useful in some cases, is not constant in its effects. Rodagen is of doubtful utility, though the fresh milk of a thyroidless goat is useful in some cases, but it may be difficult to obtain one of these goats, and there is the trouble of maintaining the animal during the treatment. The results of surgical treatment in selected cases are satisfactory, but it is to be remembered that there are still considerable risks to be faced, and that recovery does not follow in all cases. I recently saw a lady who has had exophthalmic goitre for ten years; she has, on different occasions, had the whole of the right and a portion of the left lobe of the thyroid removed. The symptoms of the disease are still, however, moderately severe. The crises call for special treatment as they arise. The cutaneous and bronchial crises are generally controlled by belladonna in full doses, and the gastric and intestinal crises by opium. In some cases, however, the vomiting continues until death takes place from exhaustion. In one case in which the vomiting continued in spite of all we tried, and until the condition appeared to be almost hopeless, Dr. Pemberton, with whom I saw the patient, finally tried injections of pituitary gland extract. This at once checked the vomiting, which after several injections ceased altogether, and the patient returned to his former condition of Graves's disease of a mild type.

The true function of the parathyroid glands and their relationship to the thyroid itself has attracted much attention. On the one side it is held that they really consist of undeveloped thyroid tissue capable of becoming functionally active under certain circumstances. On the other they are regarded as separate organs with a special relationship to the nervous system, which is shown by the development of tetany when they are removed. We know little if anything of the results of disease of these organs in man, and the experimental investigation of these functions is complicated by the variable anatomical distribution found in different species of animals. On the whole their importance appears to have been somewhat over-estimated, but further investigation is required in order to ascertain their real function in man.

The pituitary, like the thyroid gland, has a remarkable influence upon metabolism, and the rapid growth and development which normally takes place at adolescence is largely due to its activity. Cushing's experiments show that after removal of the hypophysis in adult dogs there is deposition of fat, increased sugar tolerance, lowering of temperature, and abeyance of sexual functions. In puppies there is, in addition, arrest of sexual development and of skeletal growth. In man the effects of pituitary insufficiency are shown in the condition described by Fröhlich and named by Bartels *dystrophia adiposogenitalis*. This condition may develop either as the result of destructive disease of the hypophysis or in consequence of injury, as in Madelung's case of bullet wound of the pituitary gland. There is a remarkable increase in the amount of fat associated with high carbohydrate tolerance, dryness of the skin, impaired nutrition of the hair and nails, and arrested development of the genital organs. It appears, therefore, that hormones supplied by the anterior lobe of the hypophysis activate skeletal growth and sexual development at puberty, control the accumulation of fat and the nutrition of the skin and its appendages.

Sir E. A. Schäfer has shown that the posterior lobe including the pars intermedia supplies hormones which regulate the tone and contractility of plain muscular tissue generally and of the heart, and stimulate the activity of the mammary gland and of the kidney. It seems possible that the secretion is polyvalent, and that these various effects are produced by the action of different hormones, as Herring obtained a pituitary hormone from the skate which stimulated the mammary gland without influencing either the circulatory system or the kidney. In addition to these important results, Sir E. A. Schäfer's experiments have placed pituitrin, a very powerful remedy, in our hands, by means of which we can stimulate plain muscular tissue to contract. It is not unreasonable to expect that it may be found possible to separate the hormones which stimulate glandular secretion from those which act upon the unstriped muscle and so further increase their range of usefulness in the treatment of disease.

Not only may disease be due to lack of pituitary hormones, but a remarkable change in the body arises when the supply of these hormones is superabundant. When this occurs in the adult the hypersecretion leads to the characteristic changes of acromegaly. In young subjects the long bones are still able to increase in length, and so a condition of gigantism is the result, and lowered sugar tolerance with glycosuria in some cases.

Just as Graves's disease may be followed by myxoedema so in the later stages of acromegaly the pituitary secretion may fail and some of the symptoms of insufficiency appear, such as obesity, somnolence, and increased sugar tolerance. The skeletal changes are, however, permanent, and the bones do not return to their normal size and shape when the period of hypersecretion is over. It is interesting, in comparing the functions of the thyroid and pituitary glands, to find that loss of function in the young causes arrest of development in both cases, while hyperactivity causes overgrowth in the case of the pituitary gland alone, for Graves's disease in the child does not cause overgrowth, as might have been expected when we remember the rapid growth of a cretin under the influence of thyroid extract. In the active stage of acromegaly we can expect no benefit from the use of pituitary extract, though thyroid extract has proved to be of service in some cases. The means at our disposal at present for diminishing the overactivity of the hypophysis are the use of x rays and surgical measures for the relief of local pressure symptoms by decompression or the removal of some of the enlarged anterior lobe of the gland, so as to diminish the supply of its secretion. Owing to the deeply-seated position of the hypophysis the actual dose of x rays which can reach it must be small. The chief benefit obtained by surgical measures has been the relief of symptoms such as headache and improvement of vision resulting from the diminution of local pressure thus brought about, and is comparable to that obtained by the removal of a portion of a goitre which is compressing the trachea.

It is now fully recognized that the ductless glands have important relationships to each other, and that the secretion of one gland may either stimulate or inhibit the activity of other glands. Of these structures it may, indeed, be truly said, "whether one member suffereth all the members suffer with it." My attention was particularly drawn to this aspect of the subject by observing two cases, which I recorded some seventeen years ago, in which acromegaly, Graves's disease, diabetes, and pulmonary tuberculosis were present simultaneously. In one of these subsequently there was found to be a considerable hypertrophy of the hypophysis, enlargement of the thyroid gland, and persistence of the thymus with hypertrophy of the left lobe. At the time I was inclined to regard the hypertrophy of the thyroid and hypophysis as being due to a common cause. Rolleston has suggested that the condition is due to some disturbance of an equilibrium between the internal secretions of the two glands. In myxoedema and after removal of the thyroid gland the hypophysis increases in size and vesicles develop which are filled with secretion. This change appears to indicate that the hypophysis may to a limited extent be able to replace the thyroid gland, although it contains no iodine. The simultaneous enlargement of the two glands is difficult to explain. It is probably due, as Cushing suggests, to an "underlying bio-chemical factor" of which at present we know nothing. The existence of a relationship between the hypophysis and the sexual glands is shown by the enlargement of the former which takes place during pregnancy and after castration.

These cases illustrate also the relationship between the thyroid and the pancreas. Glycosuria occurs not only, however, in these cases of pluriglandular disease, but also in cases of Graves's disease, in which there may be an occasional and transitory glycosuria or a severe and fatal diabetes. The diabetes may develop while the symptoms of Graves's disease are still active, or it may only appear later on after they have disappeared. It has been shown by Eppinger, Falta, and Rudinger that the thyroid and pancreas tend to inhibit each other, so

that increase of activity in one is accompanied by a diminution in the other. This influence is probably exerted by the thyroid secretion on the activity of the islands of Langerhans, so that in exophthalmic goitre sugar tolerance is lowered, while in myxoedema it is raised. Lorand found an increase in the islands of Langerhans in dogs after thyroidectomy, whereas the glycosuria induced by removal of the pancreas almost or entirely disappeared after a subsequent thyroidectomy. In one of my cases in which recovery from Graves's disease was followed by severe and fatal diabetes, microscopical examination of the pancreas showed that the islands of Langerhans had practically disappeared. It seems, therefore, that in these cases the prolonged inhibitory action of excessive thyroid secretion may be followed by loss of the internal secretion of the pancreas. We unfortunately know very little of the pancreatic hormones. So far they have not been obtained in an active form, for no preparation of the pancreas has yet been produced which is able to supply the hormones by internal administration when they are absent in a case of pancreatic diabetes. The experiments of J. Forschbach indicate that where a state of "parabiosis" has been established between two animals as by means of a direct communication between the peritoneal cavities, the onset of diabetes after the removal of the pancreas from one animal may largely be prevented by the direct passage of active pancreatic hormones from the other.

The gap to be bridged to enable us to make use of our present knowledge of the function of the pancreas in the treatment of some forms of diabetes thus appears to be a narrow one. Could we but transfer the normal pancreatic hormones directly without change from a healthy animal into the blood stream of a case of pancreatic diabetes, striking therapeutic effects might reasonably be expected. Forschbach and Zuelzer have shown that although the glycosuria in man may be diminished by injection of pancreatic extract prepared by a special method, such unpleasant symptoms are produced that, as yet, the treatment cannot be carried out.

In the suprarenal glands the medulla and cortex have separate functions. The medulla is characterized by the presence of a chromaffin substance and is constantly supplying an active hormone, adrenalin. It was shown by Oliver and Schäfer that this substance has a remarkable power of raising blood pressure. So active is this hormone that one-thousandth of a milligram per kilogram of body weight suffices to produce a definite rise of pressure. It has further been shown by Langley and by Elliott that adrenalin stimulates the whole of the sympathetic system by its action on the myoneural junction. Failure of the suprarenal glands is the immediate cause of Addison's disease, in which there is increased pigmentation of the skin, vomiting and great prostration, with lowered blood pressure. Though the suprarenal insufficiency is most commonly due to tuberculosis of the glands, Rolleston has shown that other destructive lesions, such as simple atrophy, produce the same result. We know little of the functions of the suprarenal cortex, but it seems not improbable that while the low blood pressure and prostration in Addison's disease are due to loss of adrenalin from destruction of the medulla, the bronzing of the skin is due to loss of the cortex. In adrenalin we possess a remedy the value of which is fully recognized as a haemostatic and in the treatment of asthma and other conditions. Something more than this, however, is lacking in Addison's disease, as unfortunately neither adrenalin nor extracts of the whole suprarenal gland are able to replace the diseased gland in this malady. Either the disease is due to something more than the loss of an internal secretion or the secretion, in addition to adrenalin, contains other hormones which we are as yet unable to obtain in an active condition for therapeutic purposes. So far no decided results have been obtained in the treatment of Addison's disease by any form of suprarenal extract, nor is there any evidence that life can be prolonged by their use.

Excessive action of the suprarenal medulla may occur, but we have no certain information as to its clinical results. There is reason to think that an excess of the cortical hormones in early life may exert a marked influence upon the development of the reproductive system and of secondary sexual characters. In the remarkable cases of premature sexual development in boys from 3 to 9 years of age collected by Bulloch and by E. E. Glynn, adrenal hypernephromata have been found. In these cases the genital organs attain their full size, the hair grows on the face and other parts of the body, and the voice becomes deep. It seems not unlikely that this premature development, years before the proper time, is due to excessive secretion of hormones by the adrenal cortex.

It has long been known that the generative glands exercise a dual function, and that their removal not only induces sterility but other remarkable effects as well. Castration in early life prevents the development of secondary sexual characters; thus the antlers do not develop in stags which have been castrated when quite young. The earliest proof that such arrest of sexual development is due to loss of an internal secretion was given by A. A. Berthold of Göttingen in 1849, who showed that in cocks after transplantation of the testicle the male characters were retained, and attributed this result to the effect which the organ had upon the blood. Biedl further points out that these experiments were really the first to prove the existence of any internal secretion in the body. Spermatogenesis and internal secretion, the two functions of the testicle, can be separated experimentally, as the internal secretion is in all probability furnished separately by the interstitial cells of Leydig. While ligature of the spermatic cord produces the same result as castration, ligature of the vasa deferentia entails sterility alone. It has been shown by Shattock and Seligmann that the latter operation in sheep does not prevent the full development of secondary male characters, as the vascular supply remains intact and the normal amount of testicular hormone reaches the general circulation. Similar effects are produced by *x* rays, which induce sterility without arresting internal secretion, as they spare the cells of Leydig. There is a close relationship between the functions of the generative gland in both sexes and other ductless glands. The absence of sexual development at puberty in cretins and in cases of pituitary insufficiency clearly indicates that both the thyroid and pituitary glands normally exert a powerful influence on the development of both testicle and ovary. This relationship is still further illustrated by the remarkable development of these glands which takes place under the influence of thyroid extract in an adult cretin, who has long passed the normal age of puberty. I have recorded the case of a female cretin who at the age of 28 was only 34½ in. high, in whom scanty menstruation had only occurred a few times and the mammary glands were quite undeveloped. Under thyroid treatment she grew 4 in. in three and a half years, menstruation became regular and abundant, and the breasts and nipples became remarkably well developed. In these cases it is probable that the thyroid extract activates the latent ovary, and that the ovarian hormones thus produced stimulate the growth of the mamma, as they do normally at puberty. The association of premature sexual development with adrenal hypernephroma has already been mentioned, and similar cases have been recorded in association with enlargement of the hypophysis and of the pineal gland.

The results of loss of the secretion of the ovaries are seen after their removal by operation and at the normal climacterium. The symptoms which then occur are variable in character, but hot flushes, irregular perspiration, morbid fears of organic disease, and various subjective sensations are common. It is rather remarkable that so little attention is devoted to their consideration in our medical textbooks, and that their true nature is apt to be overlooked. A difficulty in recognizing the cause of these symptoms may arise in those not uncommon cases in which they develop at an interval, sometimes of several years, after the cessation of menstruation. My colleague Dr. W. E. Fothergill has suggested as an explanation of this separation that the involution of the uterus precedes the atrophy of the ovary by an interval during which the latter secretes normally, and that it is only when the ovarian secretion finally fails that the characteristic symptoms appear.

This brief survey of some of the results which follow any abnormal ebb and flow of the internal secretions in disease indicates how important are the functions of the ductless glands. As yet we are only able to recognize with certainty the maladies which are due to well

marked changes in the structure and function of these organs. It is probable that some less definite forms of ill health may also be due to variations in the activity of one or more glands, the significance of which we shall be better able to appreciate when our knowledge of their functions becomes more exact.

What, however, we most desire is to find satisfactory means by which we can supplement deficient secretion on the one hand and control harmful overactivity on the other. We have seen how far these objects have been attained in some cases. It is dangerous to attempt to forecast future possibilities, but it is not unreasonable to hope that in the light of further knowledge it may be possible to adequately supplement suprarenal insufficiency and so relieve the symptoms of Addison's disease. The treatment of Graves's disease and acromegaly will become more satisfactory as we acquire more adequate methods of checking the abnormal flow of secretion, when it is to be hoped that surgical measures will become unnecessary. Pancreatic diabetes may also prove to be more amenable to treatment by methods at present beyond our reach. Clinical medicine has already gained enormously from results obtained by experimental pathology, and we may look to the future with confidence for still further advances which will place more simple and efficient methods of treatment within our reach.

Address in Surgery

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

SIR BERKELEY MOYNIHAN, M.S., F.R.C.S.,

SURGEON, LEEDS GENERAL INFIRMARY; PROFESSOR OF CLINICAL SURGERY, UNIVERSITY OF LEEDS.

THE GIFTS OF SURGERY TO MEDICINE.

THE choice of this title for the address which I have the high honour to deliver must not lightly be held to indicate that I admit any difference between the essentials of medicine and surgery. The two sciences or arts are not in the remotest particular antagonistic; rather is it true to say that they are indeed one and indivisible, and that the separation between the two aspects which are presented to us is due to the limitations of the human intellect alone. It has been too long the custom for surgery to be divorced from medicine, for the problems of mind and of hand to be considered as distinct from one another. Happily, owing to the work which has been done in recent years, opportunities have abundantly been afforded for demonstrating the power of surgical research to enlarge the scope and to enrich the knowledge of many of the problems of internal medicine. By a study of what I have ventured to call the "pathology of the living" a very profound change has by degrees crept over our knowledge of almost every form of chronic abdominal disorder.

POST-MORTEM ROOM STATISTICS.

In the earlier years of the nineteenth century an acquaintance with the morbid processes attacking internal organs was based upon two sources of information only—upon an inquiry into the details of the clinical history of any disease as it developed, waned, or progressed, and upon the examination of the parts involved after the death of the sufferer.

I have endeavoured to show, on more than one occasion, how impossible it is to measure the sufferings of patients during their lives, or to assess their chances of death from any disease, by a consideration of the statistics gathered from the *post-mortem* room experience. People do not die in hospital from the chronic diseases from which they suffer during life. It is, so far as the surgical side is concerned, the acute terminal infections, malignant disease in all its forms, especially those lending themselves to surgical consideration, and the accidents of civil life, that supply the bulk of the material upon which the pathologist makes his observations. The statistics of Brinton and Welch, for example, two of the very ablest men ever engaged in medical work, upon gastric ulcer—statistics that meet one at every turn of the page in the literature of this subject—are, in my view, almost without value. For the observations were not made entirely by themselves alone, but by a number of observers of differing capacity working in distant places under diverse conditions. There could be, therefore, no common denominator; there was nothing by which the values of recorded figures could be made equal. And it would be futile to suppose that the patients who suffer from duodenal or gastric ulcer during life are adequately represented, in point of number, by those who die from these conditions in the wards of a hospital, or by those in whose bodies the traces of old, and perhaps quite inconspicuous, scarring or ulceration are discovered. We shall not, I hope, hear much in the future of *post-mortem* statistics as the guides or dictators of our opinions as to the maladies of the living.

THE SURGEON'S POSSIBILITIES OF DIAGNOSIS IN THE LIVING.

When the great gift of America to humanity—the discovery of the anaesthetic power of ether—was brought to the aid of the operator, vast possibilities were at once apparent in the range of the surgeon's work. But the dread of infection—indeed, the certainty of infection—held his hand for more than a generation, till the work of the greatest man our profession has ever produced, Lister, made the dream of the surgeon come true, made it possible for him with safety to carry through many procedures which before had been impossible. More than this, the chance was given to undertake the treatment of diseases which had formerly run their hasty or lingering course unchecked. Little by little our scope then widened. Acute conditions were at first attacked, perforations of the hollow viscera, gangrene of the appendix, haemorrhages from the bursting of a tubal gestation, and so forth. By degrees the impression grew that such acute catastrophes were but final stages, terminal events in the history of diseases whose presence and course were betrayed by symptoms which were clear and often characteristic. When these conditions were approached surgically in their earlier and more quiescent periods the results of operations were at first not very satisfactory. Crude methods and imperfect technique left legacies of trouble behind them. The mortality was high, and remote results were rarely ideal. It is interesting now to recall the clumsy manifestations which attended such operations as cholecystostomy or gastro-enterostomy in the days of their infancy. Owing to the labours of Senn and of Murphy simpler methods began to find a place. The bone-plates and the button showed how little was really necessary to secure firm and permanent union between well-clad peritoneal surfaces. Though these instruments are now discarded entirely, to all of us the lessons learnt from them were most important and most necessary. But for them we should never have realized as we do to-day how speedily and how simply those manipulations can be carried through with precision which before had occupied two or three hours and had involved the separate introduction of 200 or 300 stitches. In surgery complexity of procedure indicates defect in method. The search in all our work is for the simple way. In surgery, as in other arts, simplicity is the supreme virtue. Our unceasing efforts in technique are to discover what may safely be left out.

THE ASSOCIATION OF ABDOMINAL DISEASES POINTING TO A COMMON CAUSE.

As we began to recognize, almost unconsciously, the ease and sufficiency of the simple mode, the mortality from all operations fell rapidly. So it became a safe and customary procedure, not only to deal with the particular lesion which had demanded attention, but also to investigate the conditions of adjacent organs. And there surprising developments awaited the inquirer and rewarded his eager search. Conditions other than those which needed immediate attention were found to exist with no little frequency. In diseases of the stomach or duodenum, the gall bladder was found not seldom implicated also; in diseases of the latter, as of the former, the vermiform appendix seemed often to play the part of an infecting

agent. And so by slow degrees the conviction was borne in upon us that these diseases I have named did not stand in rigid isolation, one separate entirely from the other, but that their association was so frequent as to indicate the strong probability of some underlying primary cause. Infection, it was soon asserted, whether carried by the blood stream, by the lymphatics, or ascending, as Bond has shown with great clearness, along the mucous canals, was the prime evil. Differences of opinion were soon declared, and still continue, as to the source of the infection. To many of us the quiescent inflammatory lesions of the appendix seem the most potent and the most persistent of all. Arbuthnot Lane, as I shall presently state more fully, holds firmly to the belief that the infections for the diseases I have named, as of many others, have their origin in the intestine, large or small. And his views are sustained by him with quiet and characteristic courage, and with a record of results that compel attention even from the most sceptical.

A Debt of Surgery.

To the surgical assault that we made upon our patients for the purposes of this study of the "pathology of the living" there was one serious objection. After all abdominal operations some pain was felt. Not very much in the ordinary appendix cases, a little more perhaps in the gastric cases, and certainly more in the patients who had submitted to operations upon the biliary tract. The pain was rarely very severe, but it called often for the administration of a small dose of morphine, and it was certainly enough to constitute a blemish upon our artistry. Further than this, it was noticed that after an operation involving a handling of the parietal peritoneum, even so slight a manipulation as the separation and ligature of a hernial sac, the patient complained of flatulence, which, in the more severe cases of abdominal exploration and handling, was severe and most distressing. It had long appeared quite certain to me that the condition described by the patient as "flatulence," the "gas pains" of the American surgeon, had really little or nothing to do with gaseous distension of the intestines. There was a feeling of "fullness" to the patient; but often no recognizable inflation of the intestines when an examination was made, nor was any real relief obtained by the expulsion of gas. Flatulence, I felt convinced, was the name given to a condition which depended upon trauma, or the rough handling of the parts engaged in the operation. Happily we are now able to make certain that any operative procedure in the abdomen can be carried out thoroughly without the infliction upon the patient of any intolerable pain and without his being caused to suffer any flatulent distress afterwards. We owe this entirely to Crile. The debt of surgery to this most acute, most versatile, and patient investigator was already a heavy one, but I think that to the surgeon of tender heart—and all surgeons surely are tender hearted—his latest work must bring the most profound satisfaction.

Anoci-association.

Crile has enunciated the principle of "anoci-association." He has shown that in the condition recognized as "shock" definite and demonstrable changes occur in the cells of the brain, which have discharged all the energy they have stored. This exhausting discharge of nervous energy is due to that excitation which is caused by the infliction of numberless injuries, each of them small, or to the infliction of one overwhelming impression. When an operation is performed under ether anaesthesia, the operator may delude himself into the belief that, because his patient lies unconscious, and apparently unresponsive to any hurt, therefore no damage to his nerve centres is possible. But ether anaesthesia does not put all the brain to sleep; the larger part, and by far the more important part, is awake and staring, ready to be acted upon, and to be injured, just as easily as if the patient were awake. The fact that some operators produce little constitutional disturbance, little shock, by the performance of an operation which at the hands of another causes very serious collapse, is not due to differences in the patient, in the anaesthetist, in the method, or in anything else but the surgeon himself. There are surgeons who operate upon the "canine" principle of savage attack, and the biting and the tearing of tissues are terrible to witness. These are they who operate with one eye upon the clock, and who judge of the beauty of any procedure by the fewness of the minutes which it has taken to complete. There are other surgeons who believe in the "light hand," who use the utmost gentleness, and who deal lovingly with every tissue that they touch. The former type of operator is described by Crile as "carnivorous"; the latter type is nowhere better exhibited than in his own work. The scalpel is, indeed, an instrument of most precious use—in some hands a royal sceptre; in others but a rude mattock. The perfect surgeon must have the "heart of a lion and the hand of a lady"; never the claws of a lion and the heart of a sheep.

The brain, then, under ether anaesthesia is in great part wide awake, appreciative of stimuli and in part responsive to them. During any surgical operation, Crile assures us, there is, in reply to every incision, every pull of the retractors, indeed to every physical contact, a change in the pulse, the respiration, and the blood pressure. Every surgeon conversant with abdominal work knows how a rough handling will cause tension in the muscles and deepen the patient's breathing, making loud and stridulous the expiratory effort, as though the victim were groaning in his agony. No general anaesthetic, it is clear, can shelter the brain from the assault committed upon it by the injuries inflicted during an operation. Crile has therefore suggested that by means of local anaesthetics, novocain for the skin, quinine and urea for the parietal peritoneum, a barrier can be erected around the area to be operated upon, so that no nerve impulses can be conveyed from the territory so isolated. The field of operation, that is to say, may be temporarily disconnected from the brain, not only at the time of operation, but for periods of one to five days subsequently. The operation then is conducted in an area which, for the time being, does not belong to the patient, which he cannot reach by any impulse directed towards it, and which can be dealt with as the surgeon wishes without the patient having any power of receiving impressions from it.

But this is not all. Shock may be produced not only by physical violence, but also by psychical disturbances, by emotional excitement, by the receipt, for example, of good or bad news or by fear, the suspense and the trials of some great ordeal. By many patients their submission to an operation is viewed with dread and apprehension. In order that the best results should follow upon our work it is necessary that every consideration should be shown to a patient, and every proper regard to his wishes; every encouragement should be offered, and the impression forced upon him that all those engaged in the operation or his after-treatment are working strenuously to the one end, his assured and rapid recovery. The fears which hover round the last hour before an operation are greatly modified by the administration of a small dose of morphine with scopolamine. A happy frame of mind is thereby induced, and very little nitrous oxide gas is required to put the patient soundly to sleep. The memory of the conveyance of the patient to the operation theatre and of the administration of the anaesthetic are often abolished by these measures. This is, in brief, the method of Crile, which I have used for many months, and which has added a pleasure to my work which is really immeasurable. To the great discoveries of Morton and of Lister this of Crile seems to be the fitting completion.

Several interesting side issues have developed as this procedure has become more widely practised. The most striking of all improved results is seen in the treatment of exophthalmic goitre. In England we see little of this disease, and very few operations appear to be necessary. In America, where the days are more strenuous and the rush of life more eager, operations are more often and more urgently needed. After such operations it was no uncommon thing to find that the patient suffered profoundly from "shock," and the heart beat so rapidly that it often seemed to be galloping to death. After an operation conducted by Crile's method the emotional activities of the patient are undisturbed, and within a few days his whole appearance and condition undergo a striking change for the better. "Aseptic wound fever" is almost certainly due to psychical factors.

EARLY SYMPTOMS AND LATE SIGNS.

Equipped with these new powers, due to the three discoveries of ether,* of antisepsis, and of anoci-association, the surgeon has been empowered to conduct his investigations into the conditions of disease in an entirely novel manner. Half a century ago a patient who was suffering from any form of abdominal disorder could not do more than describe his symptoms in detail to his medical attendant. He could not lend his body to inquiry; and no investigation of the parts concerned in his disorder could be conducted until after death. Death might occur from the final stages of this same disease, or more often from some intercurrent and independent malady. It was difficult then for the pathologist conducting an examination of the body to make the symptoms and the signs tally, for at this stage they had probably ceased to correspond one to another. The final ruin of an abbey tells us nothing of the domestic habits of the monks who found shelter within its once unbroken walls. The ultimate devastation in a lesion of the stomach, such as is seen on the autopsy table, tells us nothing of any value of those early wanderings from the normal condition which the same parts had once displayed. Terminal events may seem to have no connexion, or at best a very remote one, with the early changes of which they are the outcome. All the knowledge our forefathers possessed of the power of organic changes to cause clinical symptoms depended upon an inquiry into those changes when they had reached the last stage in their career. This last stage might be disastrous, as in the case of a chronic ulcer of the stomach which had led to cancer; or it might be inconspicuous, as in the case of a duodenal ulcer which had healed, as such ulcers sometimes will, without leaving any scar or only such as the pathologist in his haste may overlook. So all was confusion. Two incompatible things were considered side by side—early symptoms and late signs. When we consider the crushing disadvantages under which our forebears worked it is amazing to find how much they did, and with what accuracy they had solved many problems. The most conspicuous example of this extraordinary insight into abdominal diseases is, I think, afforded by the work of Brinton, whose books on *Diseases of the Stomach* and on *Ulcer of the Stomach* for wide observation, profound and cogent reasoning, and beauty of language have never been challenged by those of any other writers. But with the new methods to which I have referred the study of the pathology of the living became possible. Symptoms recited at the moment, could be ascribed to the lesion disclosed by the operation in the precise stage of its existence in which it was capable of arousing those symptoms. The history of abdominal surgery in the last ten years is the tale of the lessons that were learnt.

The most considerable revolution has occurred in connexion with our inquiry into the condition of "dyspepsia." To any who have no acquaintance with their works I can hardly imagine a greater intellectual delight than to read what Brinton, Johnson, Sir Thomas Watson, and other early fathers have written upon the subject of dyspepsia. With perfect accuracy of observation in many instances, with supreme mastery of English in almost all, they tell the story of many of the forms of dyspepsia. But none of them realized, as we by degrees have come to learn, that dyspepsia is so often a manifestation, not of a nervous or functional disorder, but of a real organic change. The story of how this all came about may bear retelling.

In the early days of gastric surgery operations were undertaken either for the relief of patients afflicted with carcinoma, after the methods laid down by the great pioneer and master, Billroth; or for the treatment of cases of pyloric obstruction by the operation of gastro-enterostomy, suggested in a whisper by Billroth's assistant, Nicoladoni. Of cancer I have at this moment nothing to say. In cases of pyloric obstruction the operation gave results which were quite amazing in their character and rapidity. Patients, emaciated almost to the last degree, unable to take more than the most meagre of meals, afflicted with copious vomiting at intervals of only a few days, became in two or three weeks happy mortals, with keen relish for food, which gave no unease, and which was retained without difficulty. Many patients underwent a veritable resurrection; one of my patients weighed 51 lb. when operated upon and a few years later weighed 131½ lb., and in several instances I have known the weight to be doubled.

"GASTRIC ULCER" IN THE RIGHT ILIAC FOSSA.

So marvellous were these results that the eager activity of surgeons led them to employ the same method in other cases of "gastric ulcer." Patients who for years had suffered the misery or the martyrdom of indigestion readily submitted to any operation offering a prospect of relief. But it soon became apparent that the results were not so brilliant in the later as in the earlier cases, and the dreadful mistake was widely made of accepting the diagnosis of "gastric ulcer" as positive in all patients who presented the symptoms which the textbooks of medicine had told us were pathognomonic of the disease. Patients who suffered from pain, vomiting, and haematemesis were held to be the victims of "gastric ulcer," and for gastric ulcer the approved surgical remedy was gastro-enterostomy. Little by little the truth dawned upon us that "gastric ulcer" was a perilous diagnosis to make. For, with whatever confidence the existence of this lesion was predicted, disappointment and dismay followed fast upon the investigation of the parts. The stomach in these cases often showed no trace of that hard white scar which we knew must indicate the site of an ulcer of old standing. For a long while we were at a loss to know what the cause of the symptoms might be, when all the stomach walls and the duodenum appeared healthy. The scope of inquiry in such patients was therefore widened and the discovery made which excited the deepest disbelief in the minds of many, and which still meets with incredulity—the discovery that in the majority of cases which come to an operation a "gastric ulcer" has its place in parts other than the stomach.

There is now no longer any doubt in my own mind that the commonest site of a "gastric ulcer" is in the right iliac fossa. That is to say that in the majority of cases in which the most erudite teaching of the most astute German physicians would justify or compel a diagnosis of ulcer, the patient is suffering from a lesion elsewhere, and more often than not from a lesion in the appendix. The appendix may present a variety of conditions, but they are all alike in one particular—they are all obstructive in character. Infection and obstruction together, or apart, as Sir Bertrand Dawson has well said, make all the ills from which a patient derives abdominal trouble. In the appendix both may be at work at the same moment; indeed, one follows inevitably upon the other. In my experience there is no appendicitis without obstruction. In these cases of mimicry of gastric ulcer, is the stomach, then, quite healthy? In my earlier and less complete observations I often thought it was. Now I feel sure that there is, I think I may say always, such a change in the appearance of the organ as will enable the most absolute prediction to be made that the appendix is diseased. These changes are: a vivid injection, a deep congestion of the pyloric portion of the stomach over a distance of two or three inches at least; a great, irregular, eager activity of contraction, the muscles of the part appearing to writhe in angry contortions; and thirdly, an enlargement of the subpyloric group of glands. The explanation of these changes is, I think, now clear; of their existence there is no longer any doubt. The present position of our opinion is accordingly this, that in many of the cases of "gastric ulcer," the symptoms of which are pain, flatulence, acidity, heartburn, vomiting, and haematemesis, the lesion primarily responsible for such symptoms does not lie in the stomach. The lesion is one in which infection and obstruction are in league to do harm, and its most frequent location is in the appendix.

The evidence seems to be increasing, and is, indeed, already abundant, in favour of the view that these distant infections, whether in the appendix or elsewhere, which often produce the gross lesions just described in the stomach, may be the precursors and the excitants of a chronic ulcer of the stomach. The experimental work of Turck, Bolton, and Wilkie has shown how ulceration of the gastric mucosa may be set up by infecting agents, and may be perpetuated by the inability of the stomach

* I say nothing of chloroform, for I dislike and fear it intensely and use it hardly at all.

completely to empty itself in the normal time. To infection, stasis is added and often also an increased acidity, or at least an acrimony of the gastric juice. Gastric ulcer, then, would appear to be almost always a secondary disorder; the primary fault lies not in the stomach, but elsewhere, its expression is manifest in the stomach because of the particular series of incidents which occur therein. This much is certain—that when cases of gastric ulcer come to the operation table the evidence of other and apparently older lesions is rarely wanting.

Chronic Ulcer and Carcinoma.

Among the most notable of the gifts of surgery to medicine is the proof that in a large proportion of cases the onset of cancer of the stomach is not a new and unaccountable thing, but is, on the contrary, a tardy development upon an earlier condition which for years had clamoured for recognition. It appears to me that the work of the Mayo clinic has offered irrefragable proof of this assertion.

I am, of course, well aware that all cases of cancer of the stomach, unhappily, do not come to the surgeon. No one but the surgeon can do any good to patients so afflicted. Yet there is a strange timidity of approach to the surgeon which is unaccountable, and far too often the favourable period in the history of a case is allowed to slip away before any recognition of the real conditions is attempted. It is true, then, and must be admitted, that when the surgeon speaks of the work which passes under his hand he is not speaking of the whole. Nor is any one else. Neither the physician nor the *post-mortem* investigator knows the whole range of cases; indeed, each sees far less nowadays than the surgeon. The view of the latter, therefore, if not all-embracing, is doubtless wider than that of any one else. The experience of the surgeon shows—and here geographical considerations seem to matter little — that roughly two out of three of all patients who come for relief from a condition of carcinoma of the stomach give a history of inveterate and recurring dyspepsia over a stretch of many months or years. No one knows so well as the surgeon, for he made and repeats daily the discoveries, that such a history does not mean that there is a chronic ulcer of the stomach, healing and breaking down afresh, during all that time. But though we are grown chary of making a diagnosis of "gastric ulcer" with that ease and certitude which formerly attached to the physicians of all countries, we can and do make an accurate diagnosis in a large proportion of the cases, if only those patients are allowed to be suffering from "gastric ulcer" who can hardly be supposed to be the victims of any other organic lesion. The surgeon who walks by sight and not by faith knows that a gastric ulcer is a real thing, though so many impostors have claimed his attention. In the majority of the cases of gastric carcinoma the history given of earlier attacks makes it almost certain that these were due to a veritable ulcer of the stomach. There may be, I fully admit, errors in this estimate; but making all the allowances that our operative experience warns us to be necessary, there can be, I think, no doubt at all that a genuine chronic gastric ulcer has been the cause of that dyspepsia of which recurring attacks are noted. In one of these attacks, perhaps after an interval of months or years of freedom, something different is noticed. The attack is heralded in the old way; at first no difference between it and the others may be observed. But by degrees it is realized that something worse is occurring. The symptoms, which in earlier attacks were so easily amenable to careful treatment, to rest, to sparing diet, and so forth, have now become more severe and incoercible. Relief does not come from the measures which before have been so instantly successful. Moreover, weight is more rapidly lost, anaemia may develop, and anorexia is most persistent and distressing. This is the occasion, all other and more favourable occasions having lapsed, when instant—it can hardly be called precocious—surgical treatment should be urged. The patient has now arrived at middle life, or has passed it, and the diagnosis of cancer may tentatively be made and should be acted upon with alacrity. Surgical intervention for purposes of inquiry has hardly any mortality nowadays. If a cancer be found and a resection of the stomach is undertaken, the mortality will vary with the expertness of the hands which practise it. But whatever that mortality may be, it cannot attain the death-rate of inaction and of "expectant" or medical treatment, which is exactly 100 per cent. It was urged by Dr. W. L. Rodman many years ago that resection of the pyloric end of the stomach for the ulcers that singly or in clusters are found there was the most prudent mode of treatment. In his clinic at Rochester Dr. W. J. Mayo has for several years resected the stomach not only for chronic ulcers in the vicinity of the pylorus, but also for those tumours which might be due to ulcer or might be due to cancer, for declared cancer and for those cancers which, though evidently not curable because of the enlargement of distal, secondary glands, or other visceral deposits, were yet removable. In his so safe hands resection has hardly any greater mortality than gastro-enterostomy. This procedure is questionless the ideal one. It has afforded, of course, a unique series of specimens for investigation. Drs. Wilson and MacCarty conclude from their examination of all the material so furnished that in 71 per cent. of these cases of cancer of the stomach the malignant process is engrafted upon a simple one, that cancer is really due to a secondary change which starts in the edge of an ulcer of long standing. My own material, far less in quantity, bears out their contention. It has been shown that in the base of these ulcers tending to cancer the mucosa has gone, leaving only scar tissue; in the overhanging border of the ulcers the mucosa is proliferating and some epithelial cells, nipped off by scar tissue, are showing all the stages of aberrant proliferation with infiltration of the surrounding tissues and metastases in the lymphatic vessels of the stomach wall. The truth of these observations is hardly yet admitted by those whose inquiry has been based only upon specimens found in the *post-mortem* room or on the shelves of the museums—upon parts, that is, that have been long dead, and subjected, no doubt, to the many changes which death and swift decay bring in every cell. Upon the *post-mortem* table only the final dilapidated ruin of the disease is seen; in specimens removed during life the disease in its earlier stages can be scrutinized. The material upon which the pathologist has formerly worked has not been favourable to the discovery of the truth; the sources of eternal truth were poisoned.

It would be hard to decide among so many strong competitors as to the primacy of any piece or work given out by the Mayo clinic. It is, however, safe to say that the real and permanent value of the contributions to this subject of cancer of the stomach, both from the technical and the pathological sides, can hardly be overstated.

Duodenal Ulcer.

The infection, which has its origin in the appendix or in the intestine, wreaks other harm than that upon the stomach wall. Of duodenal ulcer and of cholelithiasis we have also learnt that they are usually secondary manifestations. Of duodenal ulcer I have so recently and so fully written that it is not necessary here to do more than record the fact that a full knowledge of its symptoms and course, and the power, unrivalled in any other abdominal disorders, of making an accurate diagnosis, are not the least important of the gifts of surgery to medicine. Of this disease almost nothing was learnt after inquiry from the dead alone, except of those late preventable disasters which come from its unchecked course. In the early days of our recognition of this condition we were assailed by a formidable array of *post-mortem* statistics which went to show the rarity of the disorder, and the absence or the inconstancy of any symptoms which could be attributed to it during the life of the patient. We now know that the great frequency of the disease—every month I operate upon more cases than were formerly recognized in the *post-mortem* room of the largest hospitals in ten years—and the claim may truthfully be made that of all abdominal diseases none can be more certainly discovered by a scrutiny of the anamnesis alone.

The Etiology of Gall Stones.

Another and equally important reversal of opinion has occurred in connexion with cholelithiasis. It was formerly the accepted belief, and as fallacies die hard may still be the view of some, that in a large percentage of cases gall stones were "innocent"; they declared their presence by

no apparent sign, and their existence threatened no peril to the health or life of the patient.

The work of Lartigau upon the etiology of gall stones is of the first importance. He showed that active organisms taken up by the portal stream from the intestine were passed through the liver, which acted as a "destructor." They emerged from it in the bile, lifeless. Some few, however, under special circumstances, made their escape, and remained active in the bile which flowed to the intestine. If the organisms which find their way into the gall bladder are violent in their activities an acute inflammatory condition, of a degree which varies with the intensity of the infection, is caused. There may be any gradation from an acute phlegmonous cholecystitis to a trivial and evanescent catarrhal condition of the mucosa. If the germs be in an attenuated condition the contractile power of the gall bladder is competent to expel them, and no harm results. So far as experiment serves to show, a stone can only develop in the gall bladder (and the gall bladder is the factory wherein all stones are made) if, with a mitigated culture of micro-organism there is some retardation of the outflow of bile. Sepsis and stasis must go together. The gall bladder then puts forth its own efforts to protect itself, and secretes cholesterin, which being deposited upon the surface of the germs, clumped as they probably are, safely immures them. A gall stone, then, consists of a deposit of cholesterin (alone, or with the addition of other salts) upon a nucleus of organisms which have intruded into the gall bladder. Every gall stone, as I have said before, is a tombstone erected to the evil memory of the germs that lie dead within it. The frequency with which gall stones lie inert within the gall bladder, causing no harm and arousing no symptoms, is so very small as to be quite negligible. It is certainly much less than 1 per cent. in all those cases which come for surgical treatment, and, though I admit that this estimate involves a possible fallacy, yet the truth cannot be known of all the cases in which gall stones exist, for neither operative work, nor the examinations of the dead, nor the records of the "spas," reveal the whole matter.

The Inaugural Symptoms of Gall Stones.

The error that has found a place in the minds of all medical men, and has been faithfully carried down from one generation of textbooks to another—that in the majority of cases gall stones cause no symptoms—has been for ever dispelled by the work of the surgeon. In operating upon cases of advanced cholelithiasis a history of inveterate though perhaps trivial dyspepsia over a long period can almost always be obtained. In operating upon patients for the relief of other conditions—myoma of the uterus, ovarian or other pelvic conditions, appendicitis or ulcer in the stomach or duodenum—a routine examination of the gall bladder and kidneys should be made. Every now and again stones will be found in the gall bladder, and far more rarely in the kidneys. In the case of the former a clear history of dyspeptic troubles can, in my experience invariably, be obtained. It is true that these symptoms are not those which are commonly recognized as being due to a gall-bladder condition, but the gift of surgery to medicine consists here in the true portrayal of those clinical manifestations which only an examination of the living could disclose. We now know that the earliest symptoms, the "inaugural symptoms," of cholelithiasis are just as characteristic, just as certainly to be recognized, as those of the later sequels and avoidable complications. And more than this: the very little that was known of cholelithiasis in its clinical aspects has undergone a complete revision, with the result that we are often able to declare not only the presence of stones, but often the position of that which is causing the most serious trouble. The only circumstances under which symptoms are not at the moment aroused by stones which lie within the gall bladder exist when the cystic duct has become permanently closed and the walls of the gall bladder, thick and white and hard, embrace firmly the stones that lie harmless within it. This is the "natural cure" of Rutherford Morison, a condition which develops only after months or years of symptoms, often of great severity. It is Nature's cholecystectomy, and, though Natnre may be an admirable physician, her skill as a surgeon is of the lowest order, and her work cumbersome, clumsy, and dangerous.

Lesions of the Pancreas.

It is as an outcrop of the work of the surgeon on gall stones that all our modern knowledge of the clinical aspects of chronic pancreatitis has sprung. The acute form of pancreatitis was first recognized and, with something nearly approaching to finality, described by one of the greatest of physicians—Dr. Fitz of Boston. But of chronic inflammation, of stone, of cysts, and of the mimicries of cysts nothing was heard or known till the surgeon came bearing these gifts in his hands.

We know well the great change that comes over all parts of the body after death; the face changes, wrinkles are smoothed away, the cheeks sink in, the eyes are lustreless, the orbits hollow. Other parts change equally, and among them the pancreas, perhaps, most of all. In a case of acute pancreatitis the gland, at the moment of operation, seems one massive phlegmon—tumid, doughy, and with no abrupt margin. After death it appears to be merely a bruised and blood-stained organ. So with the gland in a state of chronic inflammation. To the hand of the operator it may feel large and densely hard, and it may be responsible for the obstruction and a considerable dilatation of the common bile duct. After death it seems hardly altered from the normal, and certainly in earlier, less exact days would not have attracted close attention. The evidence of the operator and the pathologist was then incompatible, because neither seemed to recognize that their approach to the problem was from different points of view.

The question of chronic pancreatitis was first brought before the minds of surgeons by Riedel, who noticed that in many operations upon the biliary passages the pancreas was large, hard, and unduly firm. In three recorded cases he believed the patient to be suffering from carcinoma of the head of the gland, and he gave accordingly, a hopeless prognosis. Two patients recovered, and remained perfectly well; the third patient died, and the examination of the pancreas showed no trace of malignancy, but the plain evidences of a chronic interstitial inflammation. Little knowledge, however, sprung from this observation, until Mayo Robson, with his then unrivalled experience of cholelithiasis, showed the frequency and the clinical importance of pancreatitis, and convinced us all of its powers of mimicry both of carcinoma, and of the calculous form of common duct obstruction.

Its mimicry of carcinoma may be complete. Painlessly and progressively the patient may develop jaundice, which continues to deepen until the "black jaundice" of the older writers can be recognized. There is great loss of weight, and prostration, hebetude and misery, though often the appetite is unimpaired. The liver enlarges and the gall bladder distends to a degree which allows it to be easily seen and felt protruding below the rib margin. In accordance with the law of Courvoisier we assume that such a dilatation of the gall bladder is due to causes other than stone. An examination of the stools might show a complete absence of bile pigment, and this may seem the most conclusive evidence of carcinoma, for a chronic inflammation, however inveterate, rarely causes an absolutely impermeable block to the passage of bile.

Cholecystenterostomy.

With the history of a condition such as this, one could hardly fail to make a diagnosis of growth and predict a speedy ending to the case. But no one living is infallible in the differential diagnosis of obstructive jaundice. The diagnosis is always so difficult, and the chance of a life saved so important, that, however positive the evidence of malignancy may be, I advise operation in all cases. So far as immediate amendment is concerned there is little to choose between the malignant and the benign cases. In both the patient begins to improve, the jaundice falls away slowly, sometimes very slowly, and weight is soon gained. The operation performed consists in joining the gall bladder to the intestine, to the duodenum if easily available (it may be quite inaccessible, lying high and remote, when the liver is enlarged and the gall bladder over-full), or to the stomach. It may be feared that when all the bile passes directly into the stomach nausea, vomiting of bile, or loss of appetite result. Such fears are groundless. I have joined the gall bladder to the stomach in more than twenty patients who have survived a year or more, and

there is no suspicion of any special discomfort attaching to the operation. I have patients living still upon whom I operated four, six, and seven years ago, in the confident belief that they suffered from carcinoma and would shortly be dead. It is impossible for the most astute clinician or the most subtle pathologist to discover by physical signs, from the anamnesis or from the chemical examination of urine and faeces, whether a simple or a cancerous disease is present. He may shrewdly guess, but a guess is a poor peg on which to hang a man's life. All cases of obstructive jaundice should be operated upon; the mortality of cholecystenterostomy now is trifling if we take into account the severity of the disease and the outlook. Apart altogether from the prolongation or saving of life, almost every patient will declare that the relief from the maddening torture of itching is worth every sacrifice.

Acute pancreatitis, so accurately described by Fitz, remained for long a desperate and often lethal disorder. The onset of the symptoms was so abrupt, their course so rapid, and the fatal event so precipitate that for many years surgeons were quite unable to realize the moment for swift intervention. When operation was undertaken it was generally upon the mistaken diagnosis of perforating ulcer of the stomach or duodenum. And it was not until Ramsay, in 1902, showed that the chief surgical indication here, as in the case of a phlegmon in the extremities, consisted in the relief of tension, that success began to attend the surgeon's efforts. Now it is a matter of very little difficulty to make an accurate and timely diagnosis of acute pancreatitis, and the recovery of the patient can generally be assured. A tribute here may fittingly be paid to the work of Simon Flexner and Opie, who showed how apt an intense inflammation of the gland is to follow upon the infection of its duct by bile, by chemical irritants, or by infective agents. Acute pancreatitis is not seldom associated with cholelithiasis, bile which is obnoxious to the gland passing from the common duct to the canal of Wirsung when the orifice of the ampulla is blocked by a tiny stone.

Other diseases of the pancreas, cysts and calculi, have lent themselves also to accurate diagnosis and successful treatment by the surgeon. One of the very ablest and most original papers contributed to the literature of surgery in my time appeared in the British Medical Journal in 1892 (vol. ii, p. 1051). It was written by the great surgeon and my very good friend, who preceded me in the delivery of this annual address, the late Jordan Lloyd. He pointed out that, contrary to the generally received opinion, the fluid tumours appearing in the epigastrium after the receipt of an injury were not veritable cysts of the pancreas, but accumulations of fluid in the lesser sac of the peritoneum which had closed at the foramen of Winslow. Calculi are rarely found in the pancreatic ducts. Their presence has been recognized, and in a few cases the stones have been successfully removed, since the inauguration of surgical treatment by Pearce Gould in 1896.

The Source of Infection in the Abdomen.

Among the most interesting and possibly one of the rich gifts of surgery to medicine is the hypothesis that intestinal stasis, with the associated condition of absorption of toxins, is responsible for many of the diseases which attack, not only the abdominal viscera, but even also parts remote therefrom. Perhaps no subject in medicine to-day has received more discussion, has been more bitterly assailed, more often attacked by derision rather than by argument, and more cheerfully supported than this. Its author, Arbuthnot Lane, is a man whose mind moves easily along new paths. Such a pioneer has often reached his destiny before other tardy travellers have set out upon the way. The pioneer in all branches of knowledge rarely himself reaches the truth, he is more apt to overreach, or to be content to guess the road that lies ahead without beating it down with his own foot tread. In contemporary surgical history many observers, as I have pointed out, have had their minds attracted to a firm belief in one thing—namely, that many of the diseases for which surgery is called upon to deal are not primary disorders, but are secondary; that they depend for their existence and extended development upon some common cause; and that this common excitant is an infection which expresses itself now in one way, now in another. The conditions I have already mentioned —ulcer of the stomach or duodenum, and cholelithiasis—are, in the belief of all of us who do much work for their relief, really dependent upon an infection. For my own part I look upon the appendix as the most potent and the most frequent cause of offence. Arbuthnot Lane takes a wider view. He believes that the intestine itself is the factory in which the poisons are produced which cause, or make more easily possible, not only the various conditions I have named, but also such diverse and distant conditions as "rheumatoid arthritis," tuberculous diseases of bones and joints, diseases of the breast, cystic and malignant, of the thyroid gland, and many other conditions. At first it was supposed that the large intestine was the malefactor, and some slender support was possibly derived for the hypothesis from the work of Metchnikoff and others. More recently the delayed drainage of the small intestine has been held more blameworthy. Various bands and kinks have been described in different parts of the alimentary canal, and these have been held responsible for the obstruction, behind which dilatation and stagnation occur. Controversy has raged round the question as to whether these veils and kinks were developmental in origin, inflammatory, or evolutionary; and very often the opinions of a writer are formed exclusively upon, or prejudiced by, the one out of many possible methods of examination to which he has devoted exclusive attention. The terminal ileal adhesion, for example, which is held by many to be the most powerful of all for evil, clearly owns at least two entirely different origins. The most common form of it, in my view, is that which depends upon inflammation of the appendix. But it is interesting to recall that in my book on *Retroperitoneal Hernia*, published fourteen years ago, I point out that the "physiological fusion" of Toldt occurs to excess in two parts of the small intestine, with the result that there occurs "an adhesion of the upper few inches of the jejunum, or the lower few inches of the ileum to the posterior abdominal wall." I point out there, moreover, a possibility which is constantly overlooked, that this physiological agglutination is not a process which ends abruptly at birth, but that it continues afterwards; it is possible, indeed probable, that it gradually advances during adult life. So far as the large intestine is concerned, my own experience points to the splenic flexure as the part where an arrest in the flow of contents is most prone to occur. Whether this is due to an exaggeration of the normal ligamentous attachments of the flexure, to its extreme fixity, or to the dragging effects of an overweighted and powerless transverse colon I cannot say. But there can be no doubt that obstruction of the most acute, as of the most chronic, kind may be solely dependent upon "kinking" of the large bowel at its splenic flexure, surrounded and held firm by membranous adhesions.

But these points, after all, are only incidental. The main question is concerned, not with the exact means by which effects are produced, but rather with the existence of the alleged effects. The fervid apostles of the new creed are a little prone to bewilder us with reasons for their immature observations. This is only to darken knowledge, and to encumber their religion with dogma. We need not yet be greatly exercised over the terms of an explanation of how these effects come about, for in medicine explanation often lags far behind experience. The most exemplary instance of the effects of alimentary toxaemia occurs, perhaps, in the condition which may best be described as Lane's disease. The miserable chronic dyspeptic with sallow skin, dirty tongue, flaccid belly, offensive breath, dusky lips and nails, cold extremities, and constipation that is with some difficulty overcome, is restored to health with incredible rapidity when a short circuit is made between the ileum and the pelvic colon. The claims that Lane makes in respect of such patients must indubitably be admitted. I have never in these cases, nor, indeed, in any of "alimentary toxaemia," found it necessary to consider the question of a removal of the entire colon. As to the further claims which are made, I have not yet arrived at the point where I can admit them, but the hypothesis charms by its simplicity, and attracts by its magnitude, and I am travelling hopefully.

THE SUCCOUR OF THE INDIVIDUAL AND THE SERVICE OF THE CAUSE.

Medicine in its quest of knowledge may rightly levy a tribute from every other science with which it comes into contact. Its doctrines and its practice are tested, may receive support, or be refuted, by work accomplished in other fields. Surgery in recent years has proved a powerful helpmeet not only in the elucidation of those problems of internal medicine to which I have briefly referred, but also by reason of the light it has brought to bear upon the functions of many of the organs in the body. The experimental method, as a mode of inquiry, is not excelled in value by any other, and no experiments, I hold, can claim an equal rank with those which are a part of almost all surgical procedures. The chief glory of the surgeon comes from the dedication of his powers to the service of an individual; but there is a cause also to be served. In every operation something may be learnt, not only of those disorders which call urgently for relief, but of other associated, or it may be separate, conditions which chance at the same moment to be present. The researches so carried out upon a human patient are performed with a sterner sense of responsibility and with a graver ritual, and are impressed by more relevant influences than attach to any other form of inquiry. Their results are accordingly of far higher value. Clinical research, when sedulously conducted and illumined by the disclosures made upon the operation table, afford the most accurate of all methods of investigation into the diseases by which man is attacked. The succour of an individual should mean also the taking of a step forward in the solution, or the better understanding, of the manifold and perplexing problems of disease.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

INTRAPERICARDIAL RUPTURE OF AN ANEURYSM.

ON April 28th last there was brought to the Royal Infirmary the body of a woman, aged 40, who had died in two minutes while buying bread half an hour previously. On examination the body manifested enlarged dullness over the precordium, and on opening the thorax the pericardium bulged forwards and was very tense. It contained 14½ oz. of blood clot. The ascending aorta was dilated, and its walls attenuated so as to form a fusiform aneurysm containing 4½ oz. of non-laminated recent blood clot.

At the thinnest portion, posteriorly, above the right auricle and just inside the attachment of the pericardium, was a triradiate rupture admitting the middle finger. The inner coat of the aorta was atheromatous throughout,

Front. B, Clot in cavity of aneurysm.

Back. A, Back of first part of aorta, showing rupture.

and one of the pearly white scars so characteristic of syphilis was found just proximal to the origin of the innominate artery.

Professor Glynn examined the kidneys, and his report goes to prove that the cause of the aneurysm was syphilis, though alcoholic excesses cannot be entirely excluded.

The kidneys are very unusually scarred and irregular. Sections through the scars show most remarkable obliterative endarteritis, some of the smaller vessels being almost completely occluded. The glomeruli have become fibroid. The adjacent portion of the kidney is normal. The condition is almost certainly syphilitic. The scars, therefore, are due not to infarctions, but to either old gummata or localized syphilitic endarteritis. There were no infarcts in the spleen.

I am indebted to Mr. Fred Halliday, the museum assistant, for the photographs.

It is from Dr. T. R. Bradshaw, the senior physician of the Royal Infirmary, that the suggestion came that I should publish the case as one of extreme rarity.

E. G. FISHER,
Senior Resident Medical Officer,
Royal Infirmary, Liverpool.

Liverpool.

Rebielus.

THE SUPRARENAL GLANDS AND CHROMAFFIN ORGANS.

DURING the last five-and-twenty years physiologists have given a great deal of attention to the functions of the ductless glands, and in the last ten or a dozen years clinicians and pathologists have vied with each other in the attempt to identify definite diseases (or, as they often prefer to call them, syndromes) with definite lesions of one or other of these glands. Disease of the suprarenal glands, connected in 1849 with a definite clinical picture by Addison, and the relation between their function and structure, have received the greatest amount of attention, and the whole subject is very skilfully set out at full length in a book published recently by Professor LUCIEN and Dr. PARISOT.[1] The chromaffin organs are so called because they exhibit a tendency to be stained a characteristic yellowish-brown colour by salts of the metal chromium. Henle in 1865 noted that the medullary cells of the suprarenals possessed this peculiarity, Stilling in 1890 described these cells as chromophil, Kohn in 1898 applied the word "chromaffin" to them. At the present time it seems that any chromaffin tissue is to be known as an accessory suprarenal gland; such tissue is met with in the rare true accessory suprarenals containing both cortical and medullary tissue occasionally found in the solar plexus, and also in the so-called paraganglionic bodies or parasympathetic bodies. These include the intercarotid body, the aortic paraganglion described by Zuckerkandl in the human fetus, and known as the organ of Zuckerkandl, the cardiac paraganglion found by Wiesel and Wiesner in the fatty tissue round the left coronary artery among the branches of the cardiac plexus that supply the left auricle, and possibly, too, Luschka's coccygeal gland. It must also be mentioned that accessory suprarenal glands containing only cortical suprarenal tissue, and known as interrenal bodies (the *Beizwischenniere* of Poll), have been found in the neighbourhood of the kidneys, in the retroperitoneal space, and in the genital tract; those that occur beneath the renal capsule and bedded in the kidney itself have long been connected with the complex renal tumours known as hypernephromas. The authors have brought together a great deal of information about the suprarenal glands in their volume, which is divided into four sections. The first of these deals with the anatomy and comparative morphology of the glands, the second with their physiology; it may be noted that adrenalin may be recognized in a dilution of one in a hundred million by a physiological test. The third section deals with the general pathological anatomy of the glands, and the fourth with the various suprarenal syndromes met with pathologically. The book is well written and illustrated, though not, perhaps, with the precision and elaborate documentation one would find had its authors been Germans. It may be warmly recommended to all physiologists and pathologists, and should be consulted by any medical man who has to deal with a case in which the suprarenal glands are involved.

[1] *Glandes surrénales et organes chromaffines.* By M. Lucien and J. Parisot. Paris: F. Gittler. 1913. (Demy 8vo, pp. 458; 100 figures.)

GYNAECOLOGY.

SIR JOHN BLAND-SUTTON has for long been an advocate of hysterectomy as the proper method of treatment in cases of fibroid disease. In *Fibroids of the Uterus*[2] his views and experience are conveniently summarized. He speaks more enthusiastically than ever about this operation: "Hysterectomy for fibroids is unrivalled among surgical procedures for its ability to amend invalid women by thousands; it enables them to lead useful lives, and, if married, to be companions to their husbands. In this sense it is one of the most beneficent operations in the whole range of surgery." Such are the author's words in his preface. In his chapter on treatment he writes: "All attempts to cure uterine fibroids by medical and electrical methods have been conspicuous failures, so that women encumbered with, or whose lives are imperilled by, these tumours, seek the aid of surgery"; and again, in a later chapter, he says: "My experience of the subtotal operation in patients after the menopause proves it to be even safer than during menstrual life." As he has done for many years, he strongly advocates the saving of ovarian tissue, but he now emphasizes the fact that for nearly twelve years he has left only one ovary even when both are healthy, and declares that the results have been quite satisfactory. He disbelieves in the theory that it is advisable to leave a small segment of the endometrium in the uterine stump. To myomectomy Sir J. Bland-Sutton still objects, and states that since 1906 he has rarely performed abdominal myomectomy or enucleation, maintaining, as before, that after the enucleation of a fibroid in the procreative period of life a woman is more likely to grow another fibroid in her womb than to conceive successfully—a stern lesson, as he calls it, taught by experience. He teaches that through and through sutures are best for ensuring union of the abdominal wound, but when they are tied the skin edges must be carefully approximated by a continuous suture of thin silk. He condemns buried catgut, nor does he speak otherwise than unfavourably of buried silk sutures; indeed, to them he ascribes thromboses of neighbouring large blood vessels. Here we must add that the author's chapter on the methods of suturing the abdominal incision in relation to thrombosis and scar hernia, and the succeeding chapter on embolism of the pulmonary artery after hysterectomy, are well worth special study. He prefers the old method of drainage through the abdominal wound. A rubber tube inserted into the lower angle of the incision, long enough to reach to the bottom of the pelvis, acts better, according to his experience, than a tube introduced through the vagina. As in his previous writings, he is fair to other authorities and gives references to works in which they express views, whether they agree with or differ from his own. The drawings are of a type well known to the readers of this author, and the book itself, like its predecessors, is well got up. It is a capital epitome of the views of a distinguished gynaecologist on a subject of high importance.

DR. SCHRÖDER has boldly undertaken a difficult task for which he has shown himself fully competent. His book on the menstrual cycle of the uterine mucosa[3] is an atlas of coloured microscopical drawings. The text is contained within fifteen pages. He gives technical details of the methods by which he prepared his sections of endometrium in the Rostock clinic, which is under the direction of Professor Sarwey. The tissues required for investigation were placed in a 90 per cent. solution of alcohol within two hours after they had been procured from the operating theatre. The operations were of the usual class in gynaecological surgery, ranging from ovariotomy to hysterectomy for fibromyoma and curetting for endometritis. Great care was taken about the menstrual history of every case, only subjects in whom the catamenia were regular being selected. Dr. Schröder forestalls a very reasonable kind of criticism. The parts having been removed from subjects with disease in that portion, or in adjacent structures still within the limits of the genital tract, the critic may rightly ask if the demonstrator can feel sure that the endometrium is healthy and the menstrual process uninfluenced by the disease which necessitated surgical treatment. The author assures us that normal endometrium can always be recognized, and infers that catamenial and purely pathological changes can be distinguished from each other. The drawings are very well executed. The changes in the glandular structures come out clearly, but the histologist and physiologist, to whom the right of the last word must be accorded, will be most interested in the beautiful delineations of the epithelial cells as they appear in different stages of the menstrual cycle. How far the cells undergo a purely destructive change, necessary so that they may be replaced by younger successors, and how far the breaking down may, on the other hand, represent physiological production, we can hardly determine. If the former condition be normal, what does the endometrial cell do before it breaks down? If the latter represents the cell function, what is this product of disintegration of the cell? As to the question whether the secretion is ordinary mucin, Dr. Schröder declares that he finds it answers all the tests which distinguish that product, an important statement which would imply that the uterus is not, like the ovary, a factory for a special product like lutein. The author concludes by referring to two opposite theories, the first teaching us that the normal cycle represents simple casting off and renewal of the endometrium, while the second rates menstruation as abortion without pregnancy. Dr. Schröder inclines to the latter view, as the breaking down of the epithelium appears, according to the sections represented in his plates, to signify something higher than pure destruction. The experience of surgeons who have frequently undertaken subtotal hysterectomy shows that the endometrium is something more than mere mucous membrane.

DR. GARDNER of Baltimore has prepared a *Textbook of Gynaecology*,[4] which, being well written, and not overloaded with matter, affords a useful introduction to the subject. The original photomicrographs are highly satisfactory. Dr. Gardner does not neglect diseases of the outer organs, and, on the other hand, avoids crowding his pages with drawings from instrument makers' catalogues and long series of sketches demonstrating the stages of operations. Such sketches as he gives are limited in number, and roughly executed but fairly clear. On the cardinal points of teaching Dr. Gardner is for the most part sound. "Any fibroid which is not large enough to interfere materially with other organs by pressure, which is not rapidly enlarging, and which is not causing pain or haemorrhage may safely, for a time at least, be allowed to remain, but must be kept under observation." No better advice could be given to the student and young practitioner. In discussing cancer, haemorrhage is rightly mentioned first among the symptoms; "Even before haemorrhage occurs," he adds, "there is frequently a thin watery discharge." That is the way to teach the clinical features of cancer of the uterus. The bleeding it is that usually betrays the disease to the patient, though the discharge comes earlier. Again, "unfortunately leucorrhoea is such a common condition that usually very little attention is paid to the discharge due to a malignant growth." He further most wisely teaches that haemorrhage, though the great indicator of cancer, is sometimes late in making its appearance. This is especially the case with squamous carcinoma of the cervix, whilst, as he says, adenocarcinoma of that part may not cause any haemorrhage. The passages on operative treatment are less satisfactory. His pupils, of necessity not in a position to judge, are taught that "as a matter of fact just as wide a dissection can be made of the broad ligaments by the vaginal as by the abdominal route." Many other teachers will object to this as a dogmatic statement to the student. The average surgeon can make a wide dissection much more safely from above, where plenty of light can be turned on to the internal organs. Lastly, as in some other modern textbooks, the teaching on the treatment of backward displacements is questionable. "The vast majority

[2] *Fibroids of the Uterus: Their Pathology, Diagnosis, and Treatment.* By Sir John Bland-Sutton, Surgeon to the Middlesex Hospital and its Cancer Charity. London: Science Reviews, Limited. 1913. (Demy 8vo, pp. 246; illustrations 39. 4s. 6d. net.)

[3] *Der normale menstruelle Zyklus der Uterusschleimhaut.* Von Dr. med. Robert Schröder. Gezeichnet von Fraulein Ella Burchard, Rostock. Berlin: August Hirschwald. 1913. (Double roy. 8vo, pp. 15; Tafeln 20. Mk. 16.)

[4] *A Textbook of Gynaecology.* By William Sisson Gardner, M.D., Professor of Gynaecology, College of Physicians and Surgeons, Baltimore. London: D. Appleton and Co. 1912. (Demy 8vo, pp. 490; figs. 138. 12s. 6d. net.)

of retro-displacements require operative treatment; such a large number of operations have been devised for the relief of this condition that no attempts will be made to enumerate them." The author might have added that a large number of operations imply that operative treatment has up to the present day proved unsatisfactory.

ANALYSIS OF FOODS.

IT is almost inevitable that a new edition of a work on the analysis of foods should show a substantial increase in size over its predecessor, and LEACH'S *Food Inspection and Analysis*[5] is no exception to the rule. Although it was only in 1904 that the first edition appeared, the one now published is the third; the revision and extension of the text for this edition have been carried out by Mr. A. L. WINTON. The book is written with special reference to the laws and standards in force in the United States of America, but most of the matter does not refer to any one country, and is equally useful in any English-speaking community. The aim has evidently been to deal with the whole subject comprehensively; a chapter is devoted to the laboratory and its equipment, even giving details of all the reagents to be kept, and another chapter is given to general analytical methods. The wisdom of including elementary matter, such as the determination of specific gravities, in such a book as this may be doubted, but American authors appear to have a liking for at least touching on every part of their subject, from A to Z. The microscope and its uses in food examination are briefly dealt with, and a chapter is devoted to the refractometer; the Abbé instrument giving actual refractive indices, and the immersion, Wollny milk fat, and butyro refractometers are described, and tables are given by which the scale readings of the latter instruments are converted into the corresponding refractive indices. In the first edition the application of the instrument in analysis was briefly dealt with in the appendix, but it has gained ground steadily in recent years, and the present chapter will be very useful. From Chapter VII onwards different articles or classes of articles of diet are dealt with in a thorough manner from the analyst's point of view, and a useful feature is the list, at the end of each chapter, of references to recent publications, including books, periodicals, and pamphlets, bearing on the subject discussed in the chapter; the admirable publications of the United States Department of Agriculture naturally appear frequently. On the subject of preservatives in food the author is strictly non-committal; the arguments for and against their use being permitted are summarized, and it is pointed out that the results of experiments made to test their effects on human beings have not been concordant. The book contains numerous illustrations, including various drawings of microscopical preparations of vegetable tissues; there are also reproductions of over 150 photomicrographs. The latter are well done, but do not as a rule convey such clear information as the more diagrammatic drawing; the eye of the observer naturally selects the salient features of a preparation, and a drawing represents these chief points, and omits much of what is immaterial, whereas the camera reproduces — more or less perfectly—whatever is on the slide, and may easily fail to come as near as the drawing to a representation of what is actually seen. Exception must be made, however, of the photomicrographs of various fats, in some of which the differences could hardly be shown as well by drawings. The reputation of the work as a whole will be well maintained by the new edition.

TRADE WASTE WATERS.

THE book on *Trade Waste Waters: their Nature and Disposal*,[6] by Drs. MACLEAN WILSON and CALVERT, comes at an opportune time as a welcome addition to the scanty existing literature on the subject. Too frequently lack of information rather than unwillingness on the part of the manufacturers has been the obstacle to earlier purification of trade effluents, and to a solution of the broader question of river pollution. This compilation, it is hoped by the authors, will be a service to the manufacturer, advisers and officers of local authorities. It is written in a clear and lucid style, and is quite suitable for non-technical readers; its value is much enhanced by clearly drawn illustrations which focus a large amount of knowledge into a very reasonable space. The arrangement of material and the printing are good, and the index is adequate and well arranged. The commoner and more important waste waters are specifically dealt with, while others are grouped in a useful and quite comprehensible way.

Apart from the detailed information, the material affords convincing evidence of what can be accomplished in the purification of polluting effluents even of the worst description.

To manufacturers such a book should be of great value, as many hints are given for the recovery of by-products, overlooked in the past, which are now assuming a growing importance as sources of income. It is quite evident that trade wastes of many kinds are much more difficult, and therefore more costly, to purify than ordinary domestic sewage, and this justifies the fairness of imposing some extra charge on certain manufacturers, either by requiring a money contribution to the sanitary authority or by compelling him to provide some preliminary and efficient purifying works previous to admission of his effluent into the public sewer. The book gives up-to-date information on the economics of new processes, and such methods as the utilization of spoil banks for filtering are criticized.

The book is a commendable attempt to reduce to order the prolonged observations made from careful inspection and records by the authors, and embodies the results of much laborious inquiry in the country and in the laboratory. Chemical results as to the composition of various trade wastes and fluid effluents are displayed in tabular form, and, better than arguments, these interesting and edifying figures provide an array of facts readily grasped by the student and manufacturer. The pregnant observation is made that the disposal of dissolved organic matter in any trade waste must depend finally on biological methods, distinguishing them from wastes from processes which can be purified by chemical precipitation and straining.

It would serve no useful purpose to criticize the thirteen chapters, but several are worthy of special reference. The first is historical, and describes succinctly the evolution of river purification in regard to trade effluents. Chapter XII is an attempt to unravel the law as to the admission of trade effluents into public sewers; the authors rightly advocate the reception and treatment of trade waste waters by sanitary authorities under fixed regulations as the best course to adopt, particularly in the interests of purity of streams, though it is obvious that in many instances increased difficulty in purification at the outfall works will follow. The authors discourage the idea of the adoption of fixed standards with regard to trade waste waters, but they point out that the arguments against such standards are not so forcible in respect to effluents from sewage outfall works. Methods of analyses are carefully detailed in Chapter XIII, and reference is made to the anomalous position of river authorities, in so far that there is no power to act until the polluting process is in operation and actual pollution has occurred. Throughout the book practical utility has been the object of the authors, and they have our heartiest good wishes for the necessity of an early second edition.

NOTES ON BOOKS.

DR. IVAR WICKMAN'S admirable monograph on infantile paralysis appeared in Lewandowsky's textbook of neurology early in 1911, and was reviewed in the JOURNAL of July 29th, 1911, p. 218. It has recently been translated by Dr. Maloney in America,[7] and the translator has done his work efficiently—although he misprints his author's name on both the cover and the title-page of the translation. It seems a pity that no index of the contents of the translation should have been provided. The volume is printed on yellowish shiny paper, and is bound in a paper

[5] *Food Inspection and Analysis.* By Albert E. Leach, S.B. Revised and enlarged by Andrew L. Winton, Ph.D. Third edition. New York: John Wiley and Sons; London: Chapman and Hall, Ltd. 1913. (Roy. 8vo, pp. 1,020; 278 illustrations. 31s. 6d. net.)

[6] *Textbook on Trade Waste Waters: their Nature and Disposal.* By H. Maclean Wilson, M.D., B.Sc., and H. T. Calvert, B.Sc., Ph.D., F.I.C. London: C. Griffin and Co., Limited. 1913. (Med. 8vo pp. 352; illustrations 74. 18s. net.)

[7] *Acute Poliomyelitis (Heine-Medin's Disease).* By Dr. I. Wickman. Authorized English translation by Dr. J. W. J. A. M. Maloney, F.R.S.E. New York: *Journal of Nervous and Mental Disease* Publishing Company. 1913. (Roy. 8vo, pp. 135; illustrated. 3 dols.)

cover; its price—12s.—appears high, especially when contrasted with that of the equally well printed German original, which costs five marks.

With the rapid growth of the subject Professor HERMS believes that there is room for another *Laboratory Guide to the Study of Parasitology*.[8] He has therefore produced such a work, and has aimed at giving the student a wide practical view. The text is arranged in a series of exercises, all sufficiently detailed to enable the reader to continue his work on some specific group or species if he chooses. The exercises are based upon the two standard courses given at the University of California, namely, human parasitology (first half year) and veterinary parasitology (second half year), each with three lectures a week and two laboratory sessions of from two and a half to three hours. There is no special merit in the work, but it should prove useful for students in California, for whom it was written.

Malaria, Cause and Control,[9] is the title of a small work by the same author on this somewhat well-worn subject. The material presented is based upon nearly four years of practical study of malaria in California, during which time the author virtually investigated every part of the State. He believes that concerted action, backed by sufficient funds and carried on in a scientific and systematic manner, is all that is required to free California from malaria. The text of the book is well worth reading, but its most valuable feature is probably the splendid way in which it is illustrated with photographs. These show what is being done in educating the children, and illustrate also the different methods adopted for oiling and generally dealing with mosquitos. The book should prove useful.

Possibly Dr. HERBERT FOX'S work on *Elementary Bacteriology and Protozoology*[10] may prove of value to those who cannot take out regular courses on these subjects. It is primarily intended for nurses and beginners, and seeks to give them an idea as to the nature of micro-organisms and their relation to disease. To serve this purpose much technical material has been omitted, especially in the subject of biological differentiation. The book should prove useful to those for whom it is intended. It is clearly written, is well illustrated with photomicrographs, and has a good index.

MEDICINAL AND DIETETIC PREPARATIONS.

B.B.M. Flour.

WE have received from the Argyll Milling Company (Glasgow) a sample of a special flour which they have put on the market under the above name. This is described as being produced from a mixture of cereals, and containing an unusually high proportion of phosphate. Our analysis showed protein (calculated from total nitrogen), 11.64 per cent.; mineral matter, 1.02 per cent.; phosphorus (calculated as P_2O_5), 0.50 per cent. The whole of the phosphorus was present in organic combination, and the amount is considerably greater than in ordinary flour. The importance of an adequate supply of organic phosphorus in the food is well known to the profession, and if this is contained in the flour from which the bread ordinarily consumed is made, a sufficiency in the whole diet appears assured.

Marthaquelle Water.

The number of natural waters which are bottled and sold for use as beverages is considerable, but new ones continue to appear on the market. The latest to come under our notice is Marthaquelle water, from Salzbrunn, which has been submitted by Messrs. Ingram and Royle, Limited (London, S.E.), who are the agents for it. Our analysis shows it to leave on evaporation 165 parts of solids per 100,000, most of which consists of alkali carbonates formed from the bicarbonates existing in the water; chlorine and sulphuric acid are respectively about 5 and 16 parts. The water contains a slight excess of carbon dioxide, giving it a pleasant taste but causing scarcely any effervescence. The gas is evolved so slowly that some of the water which had stood for two or three weeks in a partly emptied bottle retained to the full its pleasant taste. Marthaquelle water appears well suited for use as a mildly alkaline table water.

Metaferrin and its Compounds.

The name "Metaferrin" has been given by the makers to certain organic compounds of iron, put forward as a contribution to solving the familiar problem of how iron may be best presented so as to secure its absorption in the body without disturbing effects on the alimentary system. Samples of these preparations have been submitted to us by the agents, Messrs. Reitmeyer and Co., London, E.C. The compounds examined were metaferrin (iron 10 per cent., phosphate 10 per cent.); arseno-metaferrin (the same, with arsenic 0.1 per cent.); and iodo-metaferrin (iodine 7.5, iron 7.5, phosphate 8 per cent.). All were in 4-grain tablets, which readily disintegrated in water. The distinctive feature of the compounds is that they are insoluble in dilute acids but very readily soluble in weak alkali, so that they should pass unchanged through the stomach and become dissolved in the intestine. The organic substance with which the iron, etc., is combined is described as digested milk albumen. Our tests showed that in dilute acid neither arsenic nor iodine was dissolved and only a trace of iron, while the compounds dissolved with great readiness in very weak alkali. Artificial gastric juice (pepsin and HCl) was also tried, but after two hours at body temperature only a very slight amount had been dissolved.

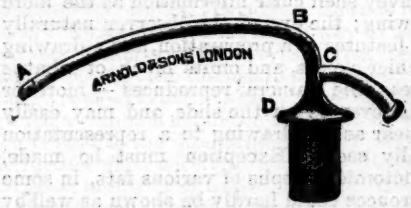
Romauxane: Tricalcol.

Romauxane is a nutritive substance containing peptone, iron, and phosphorus, made by Messrs. W. Wolff and Co., Elberfeld, and put forward for use in cases of debility, impaired nutrition, nervous disturbances, etc. We have received a sample of this from the London agents, Messrs. Reitmeyer and Co., London, E.C., and submitted it to examination. It was a dry powder containing iron and phosphorus in considerable quantity and having a slight taste of peptone; when mixed with water it was partly soluble, with the production of a very slight effervescence. Another preparation submitted by the same firm is tricalcol, a compound of calcium phosphate with milk albumen. Our examination of this showed calcium and phosphorus to be present in large quantity, but not in the form of inorganic calcium phosphate. The compound is almost entirely soluble in weak alkali. It is recommended as a source of lime and phosphorus during pregnancy and lactation, and appears to be suitable for the purpose.

MEDICAL AND SURGICAL APPLIANCES.

Throat Sprays.

DR. T. REUELL ATKINSON (Chadwell Heath, Essex) writes: In using the ordinary forms of throat sprays most of the medicament falls upon the back of the tongue. To obviate this Messrs. Arnold and Son have made for me a spray the nozzle of which passes through the upper curved half of a vulcanite folding tongue-depressor. The other half of the depressor lies flat against a specially devised bottle. When using the spray the surgeon has full command over the patient's tongue with his left hand, which also guides the nozzle of the spray into any required direction. The right hand is free to use the attached bellows. I have used this spray in several cases, and can testify to its advantages over the older forms.



THE French Minister of Agriculture recently stated in the Chamber of Deputies, in reply to a question, that he had made arrangements for an investigation of the modifications to which meat preserved by means of freezing or cold storage is liable. The investigation will be extended to the various methods of conservation by cold and to the proceedings that may be used to characterize the various kinds of refrigerated meat and to distinguish it from fresh meat. If it seems desirable, measures will be taken to regulate the traffic in meat preserved by cold storage.

[8] *A Laboratory Guide to the Study of Parasitology*. By W. B. Herms, University of California, Berkeley, California. New York: The Macmillan Company. 1913. (Demy 8vo, pp. 87. 3s. 6d. net.)

[9] *Malaria, Cause and Control*. By William B. Herms, M.A., Assistant Professor of Applied Parasitology, University of California. New York: The Macmillan Company. 1913. (Demy 8vo, pp. 174; figs. 39. 6s. 6d. net.)

[10] *Elementary Bacteriology and Protozoology: The Microbiological Causes of Infectious Diseases*. By Herbert Fox, M.D., University of Pennsylvania. London: J. and A. Churchill. 1913. (Post 8vo, pp. 237; figs. 67, plates 5. 6s. 6d. net.)

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

ANNUAL MEETING.

THE annual meeting of the association was held at the rooms of the Medical Society on Wednesday and Thursday, July 16th and 17th, under the presidency of Dr. J. G. SOUTAR. Later, the new president, Dr. JAMES CHAMBERS, occupied the chair.

The morning session was occupied with the business of the association. Satisfaction was expressed at the successful work of the Subcommittee deputed to watch the progress of the Mental Deficiency Bill, and its chairman, Dr. Hyslop, was specially thanked.

Presentation to Dr. Hayes Newington.

The first function of the afternoon was the formal presentation by Dr. SOUTAR, on behalf of the association, to Dr. H. Hayes Newington of his portrait in oils, the work of Mr. W. W. Ouless, R.A., and a testimonial on vellum, which ran as follows:

To Dr. Herbert Francis Hayes Newington, F.R.C.P.Edin. On the fortieth anniversary of your connexion with the Medico-Psychological Association of Great Britain and Ireland, we, the members of that Association, desire to place on record our appreciation of the valuable services which you have rendered to it and to the cause of the insane in these countries. You have administered the finances of the Association with conspicuous success for nearly twenty years. As President in 1889, as Chairman of the Parliamentary Committee from 1896 to 1904, as member of the Statistical Committee, of the Select Committee for promoting the Mental Deficiency Bill, and in numberless other capacities, you have been unsparing of time and labour in all that concerns the welfare of the insane and the prosperity of the Association. To you, too, it has been that many successive presidents and general secretaries have turned as their guide, philospher, and friend. On behalf of the subscribers, we now ask you to accept this portrait of yourself, painted by Mr. W. W. Ouless, R.A., as a permanent expression of our sense of obligation to you for your manifold services to the Association, and the esteem and regard in which we hold you, and our desire for your well-being and your happiness.

It was signed by the members of the Committee, including a number of past-presidents. Dr. NEWINGTON, in returning thanks, said that though he could not plead guilty to the possession of the many virtues with which the testimonial and the speeches credited him, he had tried to keep ever in mind the words of Dr. Hack Tuke when he (Dr. Newington) first undertook the office of treasurer—namely, that it was a post of great honour and responsibility. He, in turn, owed a great debt to the association, in that it had provided him with many friends and with tangible work to which he could turn when ordinary duties harassed.

Vote of Thanks to Retiring President.

Dr. MACDOWELL proposed, and Dr. PERCY SMITH seconded, a hearty vote of thanks to the retiring President, Dr. J. G. Soutar. Both speakers bore testimony to the enthusiasm of Dr. Soutar, his eloquence, and the able way in which he had presided at the meetings and taken part in the general work of the association. Included in the thanks were the officers of the association, who did their work with great energy and interest, special mention being made of the Registrar and the General Secretary. The motion was unanimously carried, and Dr. SOUTAR replied on behalf of the officers and himself, adding his tribute to those who had so efficiently worked with him, particularly Dr. M. Abdy Collins, General Secretary, to whose smooth co-operation he largely owed any success he had attained to.

Installation of New President.

Dr. CHAMBERS was then inducted to the Presidential chair, and his first function was to present the Gaskell Prize to Dr. Rees Thomas, of East Sussex Asylum; and the Bronze Medal to Dr. Mackinley Reid, of Horton Asylum.

President's Address.

The PRESIDENT then delivered his address, taking as his subject "The Prevention of the Insanities." He said that since the study of rational preventive methods must be largely concerned with causation, the starting-point was clearly indicated. In this investigation he believed that he was inevitably concerned not merely with cause but with purpose; and that the complete answer to the Why? that eternally confronted them was only obtained when the existence of ultra-mechanistic factors was admitted. The complex of causative agencies which must be recognized in the case of the insanities was one which, if the phrase were allowed, had extension in two dimensions. In the delirium of typhus fever the physical agencies at work were presented in formidable rank; but in certain insane conditions, which were hardly to be distinguished clinically from such delirium, one had to do battle with an enemy whose Indian file issued in dim perspective from the gloomy recesses of the unknown past. In the realm of bodily development reference was made to the work of Adami and others, who had found in hormonism a possible explanation of the manner in which the doctrines of the continuity of the germ plasm, and of the transmission of certain acquired characters could be reconciled. Continuing, Dr. Chambers announced his adherence to both these doctrines, and proceeded to consider the individual as progenitor, as parent, and as social unit.

In the capacity of progenitor the individual was described as a mere shell for segregated germ plasm, in which determinants and unit characters were already neatly sorted out for rearrangement; regarded as parent, Dr. Chambers pointed out that a belief in the transmission of certain acquired characters opened up a vista of possibilities, and required the admission of imperative responsibility. The various schemes for the betterment of the race were referred to in the light of recent theory and past experience, and it was insisted on that, in order that one should interfere to the best advantage, the most comprehensive survey of the many factors involved should be undertaken. The President emphasized the enforcement of segregation in certain well-defined circumstances, and reviewed the various functions of the already existing available machinery for the care of those mentally affected. He stated that the co-ordination and systematization of the special agencies in the form of centres for research, psychiatric clinics, and hospitals of different aim and purpose, together with that of the After-care Association, were no less worthy of recognition and furtherance by the State than was the marshalling of the laboratory, the dispensary, the sanatorium, and the convalescent home or colony, in the crusade against tuberculosis.

In conclusion, the keynote of reliance on the evocation of that purposeful effort which, as it had earlier been shown, was now recognized by philosophers and biologists, as well as by physicians, was again struck.

It was further asserted that, "If, in the desire to frame some attractive scheme of glittering merit, we are ever tempted to forget the present sufferer from mental disability, and his pathetic needs, we should be reminded that for him also the greatest hope of restoration lies in our inculcation, so far as we have the dynamic force, and he the capacity for response, of the necessity for personal effort. And, where there is little or no hope that we may evoke such helpful response, in devoted care of the straggler from our ranks there is a duty, not lightly to be evaded, which, if accomplished, will bring with it a rich burthen of racial reward, but, if neglected, will entail an inevitable Nemesis."

Traumatic Neurasthenia.

Dr. CAMPBELL THOMSON (Dean of Middlesex Hospital Medical School) read a paper entitled "Traumatic Neurasthenia." Neurasthenia, he said, had no definite boundary line, for its symptoms merged into psychasthenia, melancholia, obsessions, hypochondriasis, etc. Even hysteria was not always easy to separate from it; moreover, the symptoms varied with the individuality of the person, and hence the term was coming to be used as a group designation. He understood by "traumatic neurasthenia" a group of functional nervous and mental symptoms which might occur as the result of a shock to the mind as a result of accident; it was the trauma of the mind which was the essential factor in the neurosis, for sometimes the physical injury was almost negligible. Mental shock at the receipt of bad news produced a definite train of symptoms, comparable to the concussion ensuing from a physical blow. The circumstances in which the shock occurred were sometimes more important than the nature of the shock; it was well known that the relative

preparedness of the mind made a great difference in the effect. The occurrence of a latent period was very important from the medico-legal standpoint, but he did not think it covered more than a few days. It was not true to state indiscriminately that as soon as the hearing of a case for compensation was over the patient recovered. The principal bodily symptoms seemed to occur through the agency of the sympathetic system. The investigation of the neurasthenic should be proceeded with along two definite lines—the mental and the bodily, and he mentioned the intimate relation of the functions of the optic thalamus with the emotions, as shown by Head and Holmes. The first result of shock seemed to be to inhibit the action of the cortical cells, and thereby remove control over the thalamic centres. Dr. Thomson proceeded to elaborate his thesis by means of diagrams.

Sir GEORGE SAVAGE agreed that the symptoms might result from either physical or mental shock. He referred to a contribution by the late Mr. Clinton Dent dealing with the disease in policemen, in whom there was no incentive to or likelihood of malingering. In many cases of neurasthenia rest should be not only complete, but prolonged.

Dr. PASMORE contended that the symptoms found in traumatic neurasthenia were those for the alienist alone to deal with.

Dr. ROBERT JONES discussed the question of neurasthenia in relation to general paralysis of the insane. He regarded emotion as secondary to physical shock. In the neurasthenic cases which entered the asylum, the difficulty was in the translation of stimuli from without into muscular effort, and he thought the dissociation might be a cortical one.

Dr. MENZIES spoke of the vogue for operating on cases resembling those under discussion, and said the efficacy seemed to be due to relief of tension; and the cause of the symptoms seemed to be the disorganization of the serum circulation in the brain.

Dr. CARSWELL supported Dr. Campbell Thomson's contentions, especially as to the latent interval and the definite disability, and said that his experience had banished his former scepticism.

Dr. THOMSON replied.

Dinner.

At the dinner in the evening, the chair was occupied by the PRESIDENT, and he was supported by the Lord Mayor of Cardiff, Sir Thomas Barlow, the Hon. John Mansfield, Sir James Crichton-Browne, Sir John Jardine, M.P., Sir George Newman, Sir John Collie, Sir George Savage, Sir David Semple, Dr. Nicolson, Dr. Needham, Dr. Marriott Cooke, Mr. Macleod, Mr. Trevor, Dr. Hubert Bond, Dr. Dawson, Dr. Longstaff, Mr. Ouless, R.A., Dr. Soutar, and a number of past-presidents.

In proposing the toast of "The Medico-Psychological Association," the LORD MAYOR OF CARDIFF pleaded for more definite aid for research in mental disease, and for the giving of grants-in-aid towards that end, explaining that his interest arose from his occupying the post of chairman of the asylums committee in his city. He spoke most appreciatively of the good work being done by the association.

The PRESIDENT responded.

"Our Medical Brethren" was proposed in a felicitous speech by Sir JAMES CRICHTON-BROWNE, who took the opportunity of stating that forcible feeding, though probably producing discomfort, was not in any sense painful; it was regularly done in asylums, and had probably saved many hundreds of lives.

Sir THOMAS BARLOW, in response, made feeling reference to the need for a more truly Christian feeling among all practitioners, particularly where the public, through lack of information or training, were apt to misinterpret the actions of medical men. He hoped to see the disappearance of the idea that the calling in of a surgeon in consultation meant necessarily the performance of a serious operation.

Dr. SOUTAR proposed "Our Guests," and Sir GEORGE NEWMAN and Dr. LONGSTAFF responded.

The concluding toast was that of "The President," which was suitably submitted by Sir GEORGE SAVAGE, and briefly replied to.

The Interpretation of Dreams.

On Thursday, the first paper was by Dr. MERCIER on the interpretation of dreams. It was discussed by Sir GEORGE SAVAGE, Dr. CARSWELL, Dr. ROBERT JONES, and Dr. STANLEY GILL. Dr. MERCIER replied.

Asylum Dysentery.

Dr. H. SALTER GETTINGS read a paper on dysentery, past and present, with especial reference to the origin of asylum dysentery. The paper showed considerable research among the archives of Wakefield Asylum, with which institution it mainly dealt, and showed that the country was practically never free from the disease from 1678, though in the eighteenth century there was a considerable reduction in the severity. The discussion on the paper was postponed for the attendance of several members who wished to take part.

Bacteriology of Urine in General Paralysis.

Dr. BARTON WHITE made a contribution on bacteriological examination of the urine in some cases of general paralysis. Dr. SOUTAR, Dr. COLLINS, Dr. HOWARD, and Dr. W. DAWSON discussed the subject, and praised the contribution. The author replied.

Assistant Medical Officers in Asylums.

Dr. BEDFORD PIERCE presented an interim report of the Subcommittee on the condition and status of assistant medical officers in asylums, and in doing so made out a strong case for improved conditions. He showed that the number of patients assigned to each medical man was quite inconsistent with efficient attention to each patient, and stated that while the number per officer in America was 145, going up to 197 in private asylums, in England it was one medical officer to 302. Dr. ROWS, Dr. SOUTAR, Dr. MCDOWELL, Dr. BOWER, Dr. THOMSON, Dr. CLARKE, and Dr. COLLINS debated the matter, and the report was unanimously approved and the Committee reappointed.

HOW NOT TO WORK AN AMBULANCE SERVICE FOR LONDON.

IN Clause 15 of the General Powers of the London County Council now before Parliament certain powers are sought to enable the London County Council to enter into and carry into effect agreements with the Metropolitan Asylums Board, the Port of London Authority, the twenty-eight borough councils, and the thirty boards of guardians for the utilization of any conveyances they possess for the purposes of the Metropolitan Ambulances Act, 1909. This Act authorized the London County Council to establish and maintain an ambulance service for accidents or illness (other than infectious diseases) within the County of London, exclusive of the City.

No other local authority is authorized to expend money on or levy a rate for such purpose. The Council has neglected to provide such service, which is notoriously required, but has recently begun tardily to exercise its statutory powers by maintaining, at a cost of £300 a year, a motor ambulance generously presented to the Hampstead and North-West London Hospital by the Grand Duke Michael of Russia.

Last November, however, a recommendation was made to the Council to seek for further legislation, which was intended to enable the Council to pray in aid the various conveyances possessed by the sixty local authorities above named and claim these as constituting an ambulance service for London, which Parliament had authorized the Council, and the Council only, to provide.

The clause in the General Powers Bill intended to give effect to this idea runs as follows:

The Council on the one hand and the Managers of the Metropolitan Asylum District, the Port of London Authority, the Metropolitan Borough Councils, and Boards of Guardians of Poor Law Unions within or adjoining the Administrative County of London, or any of such authorities on the other hand may enter into and carry into effect agreements for the working and use by the Council or any of such authorities for the purposes of the ambulance service authorized by the Metropolitan Ambulance Act, 1909, of ambulances, lands, premises, and

appliances used by the Council or any of such authorities in connexion with ambulance services provided by them for purposes other than those of the said Act and for utilizing for the purposes of the ambulance service authorized by the said Act the services of any persons employed by the Council or any such authorities.

The clause is obscure. It is not an amendment of the Act of 1909, which was a public Act, while this is a private bill; it does not, presumably, authorize any expenditure out of rates by the authorities named for the purposes of the Act of 1909. It would enable the County Council to use the small-pox and fever ambulances of the Asylums Board by agreement for street accidents, and permit the old horse cabs employed by guardians for the conveyance of paupers to grapple with the kind of work which the electric motor ambulances are doing so efficiently in the City area.

This whimsical arrangement is said to have been propounded to the Council by Mr. H. T. Lyon. This gentleman gave evidence before the Home Office Departmental Committee on Ambulances in 1907, and we have referred to his evidence in order to get some light on the obscure clause which is intended to put his suggestions into practice. He informed the Committee that "for the centre of London, both for speed and efficiency, the hand ambulance cannot be surpassed." In Westminster "the usual method of doing it, if we are in a hurry, was simply to call a cabman. We have no stable. We keep the ambulance in an archway, which does not even belong to us." He would recommend that "payment should be made in every case" for the use of the conveyance, "with power to the guardians to remit." This same authority was of opinion that no increase of ambulances in London was required; the present provision was "adequate." He suggested that "there should not be an ambulance authority." He had given an "object lesson" to London by "an interesting display in Gray's Inn" of the collected ambulance resources of the guardians and others. Under cross-examination he admitted "some of them were rather antiquated," and in reply to a question as to whether a motor ambulance would not be "useful in securing greater promptitude in the removal of cases of severe injuries," he replied, "Undoubtedly."

Although the Departmental Committee, in their report, differed as to whether the County Council or the Asylums Board should be the ambulance authority for London, they were by no means satisfied with Mr. Lyon's arrangement. They unanimously reported that "the present system is gravely defective, and results in much preventable, detriment, and suffering," and that "a well-constructed and properly fitted rapid ambulance (horsed or motor) is a superior means of transport to the wheeled litter"; and, further, that new small stations for rapid ambulances (motor rather than horsed) should be established by the ambulance authority throughout the metropolis; and that "the main object is to get the summons for the rapid ambulance to the central office (by telephone) with the least possible delay."

It appears from a report made to the County Council in November last that of the thirty boards of guardians twenty reported that their conveyances were not available for public use; of the twenty-eight borough councils only three possessed any conveyances at all; and that the Port of London Authority had no more conveyances than were adequate for their own purposes. Yet these, with the Asylums Board ambulances (when not used for infectious cases or imbeciles) and the police litters would apparently, in the mind of Mr. Lyon and in the opinion of the London County Council, provide the County of London with a service not less efficient than the City's service, which has indeed proved an "object lesson for London." The County Council in their report admitted that they had not even "consulted beforehand the authorities concerned" before seeking new legislative powers, which they are careful to point out "are supplementary to the principal Act (1909), and would not, if exercised, involve expenditure not already within the purview of that Act."

We have said enough to show how totally inadequate the scheme, if such it can be called, would prove if ever put into practice; and we trust that the House of Lords, with whom the bill now is, will either radically amend or delete the clause to which we have directed attention.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

SECTION OF ANATOMY AND EMBRYOLOGY.

THE President of this Section is Professor Arthur Thomson, of Oxford; the Vice-Presidents, Professors Macalister. Reid, Symington, J. T. Wilson, and Mr. C. B. Lockwood, The Secretaries are Professor Howden and Dr. Alex. Macphail.

Discussions.

The number of set discussions is five; for the first, to be held jointly with the General Pathology Section, on the Excitatory and Muscular Connecting System of the Heart, Professor Kulbs of Berlin has been nominated as reporter by the Council of the Section. The other four discussions are confined to the Section of Anatomy, and the subjects chosen are The Early Stages of the Human Ovum (reporter, Professor A. C. F. D'Eternod, Geneva); The Morphology of the Sympathetic System (reporter, Professor Carl Huber, Ann Arbor, U.S.A.); The Morphology of the Shoulder Girdle (reporter, Professor Raoul Anthony, Paris), and Cerebral Localization and the Precise Significance of Sulci (reporter, Professor C. U. Ariens Kappers, Amsterdam).

These discussions will be held at the morning meetings of the Section in the Organic Chemistry Theatre, Imperial College of Science and Technology, and will be followed by a number of independent papers, which have been offered by the President of the Section, Professor McClure (Princeton, N.J.), Professor Huntingdon (New York), Aubrey Mussen (Munchen), Professor F. G. Parsons (London), Dr. Koch (Berlin), Professor Ramstrom (Upsala), Dr. Shirokogoroff (Dorpat), Dr. F. Wood-Jones (London), Professor A. Campbell-Geddes (Dublin), Dr. Albert Wilson (London), and Professor A. Dustin (Brussels), and several other communications of this order are expected in addition. The Council proposes that the afternoon meetings be held in the Museum of the Congress, in the form of informal demonstrations and discussions on the exhibits of anatomical interest which will be on view there.

The dinner of the Section will be held in the Great Hall of St. Bartholomew's Hospital on the evening of Friday, August 8th; an informal "At Home" will be given to the members of the Section by the President on one of the earlier evenings of the Congress.

The Acting Secretary is Dr. Alex. Macphail, St. Bartholomew's Hospital, London, to whom titles of papers and demonstrations should be forwarded without delay.

SECTION OF DISEASES OF CHILDREN.

The President of the Section is Dr. Eustace Smith, and the Acting Secretary, Dr. A. M. Gossage, 54, Upper Berkeley Street, W.

The meetings of the Section are to be held at the Royal Society of Medicine, 1, Wimpole Street, W.

Discussions.

The following discussions have been arranged for the morning sessions:

Thursday, August 7th.—The Treatment of Tuberculosis in Childhood, from the Surgical Point of View, with especial reference to the bones, joints, and glands. Reporters: Dr. Menard, Berck-sur-Mer, France; Mr. H. J. Stiles, Edinburgh.

Friday, August 8th.—Mortality in the First Few Weeks of Life. This discussion is to be held in conjunction with Section VIII (Obstetrics and Gynaecology) and Section XVIII (Hygiene and Preventive Medicine). Reporters: Dr. Koplick, New York, U.S.A.; Dr. Chalmers, Glasgow; and Professor Wallich, Paris.

Saturday, August 9th.—Effects of the Ductless Glands on Development. Reporter: Professor Dr. Rudolph Fischl, Prague, Bohemia.

Monday, August 11th.—Infection of the Urinary Tract with Colon Bacilli. Reporters: Dr. John Thomson, Edinburgh; Professor Valagussa, Rome.

Tuesday, August 12th.—Polioencephalitis and Poliomyelitis. Reporter: Professor Romer, Marburg, Germany.

Papers for the afternoon sessions have been accepted from the following authors:—Professor Youkowsky (Dorpat, Russia): Infantile Mortality in the First Month of Life; contribution to the clinical, anatomical, and pathological study (personal observations). Dr. Coit (Newark, U.S.A.): The Viability of Children deprived of Women's Milk during the First Year. Professor J. Comby (Paris): Encephalite aiguë chez les enfants. Dr. D. B. Lees (London): Diagnosis of Pulmonary Tuberculosis in Childhood. Dr. Govain and Dr. Calvé: Tuberculosis in Childhood. Dr. Findlay (Glasgow): Portals of Entry of the Tubercle Bacilli. Professor Cecace (Naples): Fermented Milk in Paediatrics. Dr. Siegfried Weiss (Vienna): A New Symptom of Scurvy.

It is proposed on one afternoon to exhibit some interesting cases at one of the hospitals for children in London, and it is hoped to arrange for all the children's hospitals

in London to be open to the visits of members of the Section during the period of the Congress.

Arrangements have been made to visit the Lord Mayor Treloar Cripple Hospital at Alton in Hampshire on August 9th, and special excursions are also being arranged to the Idiots' Asylum at Earlswood, to the Carshalton Hospital, and other of the hospitals under the Metropolitan Asylums Board.

SECTION OF FORENSIC MEDICINE.

This Section is under the presidency of Professor Harvey Littlejohn, and will meet in the Senate Room of the London University.

Discussions.

The following discussions have been arranged:

Thursday, August 7th.—The Medico-legal Aspects of Infant Mortality. Reporters: Professor Etienne Martin and Professor Mouriquand (Lyons); GMR. Professor Dr. F. Strassmann (Berlin).

Friday, August 8th.—The Teaching of Forensic Medicine, including the Construction and Equipment of a Medico-legal Institute. Reporters: Professor L. Thoinot (Paris); Professor Dr. H. Zangger (Zürich).

Saturday, August 9th.—Syphilis: Its Dangers to the Community, and the question of State Control (jointly with Section XIII in the Albert Hall). Reporters: Professor Dr. A. Blaschko (Berlin); OSR. Professor Dr. Ernst Finger (Vienna); Major H. C. French, R.A.M.C.; Professor Gaucher and Dr. Gougerot, Paris.

Monday, August 11th.—Alcohol and Degeneracy. Reporters: Dr. Max Bratt, Stockholm; Sr. Dr. Benno Laquer, Weisbaden; Dr. Legrain, Paris.

Tuesday, August 12th.—The Psychology of Crime (jointly with Section XII in the Jehangir Hall, University of London). Reporters: Professor Comm. E. Morselli, Genoa; Professor Dr. Weygandt, Hamburg.

The President is giving a dinner to a large number of members on August 7th. Dr. Baker has kindly arranged to take a party over Broadmoor Criminal Lunatic Asylum on August 12th. Visits have been arranged to the Museum and Finger-print Department of Scotland Yard. Members will be afforded facilities for visiting certain of His Majesty's prisons, and several of the London coroners have promised to admit members to any inquests they may hold during the Congress. A ladies' entertainment committee has been formed.

The Secretary of the Section is Dr. W. A. Brend.

SECTION OF HYGIENE AND PREVENTIVE MEDICINE.

The President of the Section is Arthur Newsholme, C.B., M.D., F.R.C.P., and the secretaries A. S. Arkle, M.R.C.S., L.R.C.P., J. C. G. Ledingham, D.Sc., M.B., G. F. McCleary, M.D., W. G. Willoughby, M.D.

The meeting place of the Section will be the Lecture Theatre, Victoria and Albert Museum, South Kensington (Exhibition Road Entrance).

Thursday, August 7th.—Morning Session: Discussion—The Effects of Dust in Producing Diseases of the Lungs. Reporters: Dr. E. L. Collis (London), Professor F. Heim (Paris). The following gentlemen will probably take part in the subsequent discussion: Professor Luigi Carozzi (Milan), Professor Dr. Sommerfeld (Berlin), Professor Matthew Hay (Aberdeen), Sir T. Oliver (Newcastle), Dr. H. Scurfield (Sheffield), Dr. J. S. Haldane (Oxford). *Afternoon Session:* The following papers will be taken: Die Bleivergiftung im Buchdruckereigewerbe u. ihre Prophylaxe, Dr. Dezso Hahn (Budapest); The Invasion of America by Pellagra, Dr. K. Heberden Beall (Fort Worth, Texas, U.S.A.); Untersuchungen über die Desinfektionskraft einiger der Gebrauchlichsten Desinfektionsmitteln, Dr. Bernhard Vas (Budapest).

Friday, August 8th.—Morning Session: Joint Discussion with Sections VIII and X, Diseases of Children and Obstetrics, on Infant Mortality in the First Four Weeks of Life, to be held in the Jehangir Hall, University of London. Reporters: Dr. A. K. Chalmers (Glasgow), Dr. Henry Koplik (New York), Professor Wallich (Paris). *Afternoon Session:* The following papers will be taken: Registration of Stillbirths, Dr. Dudfield (London); La Diffusion du Croup à Naples, Professor Alfonso Montefusco (Naples); Sozialhygienische Ueberwachung der abnormen Kinder, Primarius E. Deutsch (Budapest); Preventive Control of Tuberculosis in the Tropics (Dr. Angus MacDonald (Kingston, Jamaica).

Saturday, August 9th.—Morning Session: Discussion—The Factors that Determine the Rise, Spread, and Degree of Severity of Epidemic Diseases. Reporters: Dr. Major Greenwood (London), Professor Dr. G. Sticker (Bonn). The following gentlemen will probably take part in the subsequent discussion: Professor Sudhoff (Leipzig), Dr. Brownlee (Glasgow), Dr. E. W. Goodall (London), Dr. Hamer (London). There will be no afternoon session.

Monday, August 11th.—Morning Session: Joint discussion with Section XVII, Stomatology, on The Supervision of the Health of Children between Infancy and School Age, to take place in Lecture Theatre, Victoria and Albert Museum. Reporters: Dr. R. Dinet (Paris), Mr. W. W. James (London), Dr. W. Leslie Mackenzie (Edinburgh). The following gentlemen will probably take part in the subsequent discussion: Dr. D. Forsyth (London), Primarius E. Deutsch (Budapest), Dr. Keith Shaw (Albany, N.Y.), Dr. H. I. Gerstenberger (Cleveland, Ohio), Dr. Lapage (Manchester). *Afternoon Session:* The following papers will be taken: The Causes of Epidemics and the Laws which Regulate their Course, Dr. Brownlee (Glasgow); Teaching in Open-air Schools, Dr. Gedeon Biró (Budapest); The Necessity for State Endowed Hospitals and a State Medical Service, Dr. J. MacWalter (Dublin); Preventive Medicine Attainable only by Compulsory General Medical Education, Dr. A. L. Soresi (New York).

Tuesday, August 12th.—Morning Session: Discussion—The Causes, Prevention, and Treatment of Visual Defects in School Children. Reporters: Dr. James Kerr (London), Professor Dr. R. Possek (Graz). The following gentlemen will probably take part in the subsequent discussion: Dr. L. A. Parry (Hove), Dr. Hans Lauber (Vienna), Dr. G. Lewinsohn (Berlin), Professor Dr. Greef (Berlin). There will be no afternoon session.

Sectional Dinner.

This will take place at the Trocadero Restaurant on Friday, August 8th, at 7.30 p.m; tickets, 7s. 6d. per head. Members desiring to be present should notify Dr. Ledingham, Lister Institute, Chelsea Gardens, S.W. Members may invite guests, including ladies.

Visits to Institutions.

Visits to institutions of interest to members of the Section of Hygiene and Preventive Medicine:

City of Westminster Health Society, Infant Medical Inspection Centre (Dr. D. Forsyth), 11, Golden Square, Friday, August 8th, at 3 p.m. to 5 p.m.

St. Marylebone General Dispensary, Infant Consultation Department (Dr. Pritchard): Thursdays, August 7th and 14th, at 3 p.m.; Tuesday, August 12th, at 11 a.m. The number of visitors must be limited to twenty-five on each day.

Metropolitan Asylums Board, visits to selected fever hospitals. On August 12th and August 13th, at 3.30 p.m., the following hospitals will be open to members of the Congress: (*a*) Brook Hospital, Shooter's Hill, Woolwich; (*b*) South-Western Hospital, Landor Road, Stockwell, S.W.; (*c*) Eastern Hospital, Homerton Grove, N.E.; (*d*) North-Eastern Hospital, St. Ann's Road, South Tottenham, N. Specific points of interest to be noted will be: (*a*) Isolation of various infectious diseases in cubicles at the South-Western; (*b*) isolation in glass cells at the Eastern; (*c*) individual isolation in a general ward (bed isolation) at the North-Eastern; (*d*) general principles of construction and administration at the Brook; (*e*) ambulance stations attached to the Brook and Eastern Hospitals.

Visitors to each institution will be conducted round the wards by the Medical Superintendent. Descriptive notes in English French, and German will be supplied at each hospital.

Metropolitan Water Board. Water examination department, 20, Nottingham Place, W. The Director, Dr. A. C. Houston, will be glad to receive visits from members of the Section.

Metropolitan Water Board. Arrangements have been made for visiting King George's Reservoir, near Enfield Lock, on Saturday, August 9th, and Wednesday, August 13th, at 3 p.m. on each day. (The works are about one mile from Enfield Lock Station on the Great Eastern Railway.)

The Royal Sanitary Institute, 90, Buckingham Palace Road, S.W. Members of the Section are invited to visit this Institute and the Parkes Museum on Tuesday, August 12th, at 4 p.m.

Hampstead Garden Suburb, Hendon, N.W. The Board of the Hampstead Garden Suburb Trust invites members of the Section to visit the Garden Suburb on Monday, August 11th, at 4 p.m., when various types of houses for different classes, and the planning and apportionment of open spaces, will be demonstrated.

Visits to institutions under control of London County Council (medical inspection of school children, industrial schools, open-air schools, model lodging-houses, etc.).

The following is a list of the places to be visited, with the name of the nearest railway station:

August 9th (afternoon).—Birley House L.C.C. Open-Air School, London Road, Forest Hill, S.E. Meet at school. Nearest railway station: Lordship Lane (S.E. and C.R.). Conductor: Dr. Forbes.

August 11th (afternoon).—Brixton Hill L.C.C. Industrial School, 54 and 56, Brixton Hill, S.W. Meet at school. Nearest railway station: Brixton (S.E. and C.R.). Conductors: Dr. Thomas and Dr. Shrubsall.

August 12th (forenoon).—London Hospital, Whitechapel Road, Medical Inspection of School Children. Meeting place: General hall at hospital. Nearest railway station: Whitechapel. Conductors: Dr. Chaikin and an Organizer.

August 13th (afternoon).—Commercial Street L.C.C. School, Whitechapel High Street, E.; Fairclough Street L.C.C. School, Backchurch Lane, Commercial Road East, E.; Berner Street L.C.C. School, Commercial Road East, E. Meet at Commercial

Street L.C.C. School. Nearest railway station: Aldgate East or Aldgate. Conductors: Dr. Thomas and Dr. Shrubsall.

**August 13th* (forenoon).—L.C.C. Main Drainage Crossness Outfall Works. Meeting place: Charing Cross Steamboat Pier. Nearest railway station: Charing Cross (Underground). Conductor: Dr. Thomas.

**August 13th* (forenoon).—Bruce House, Kemble Street, Drury Lane, W.C. Meeting place: Bruce House. Conductor: Mr. Berry.

* Early intimation should be given, as the parties will be limited to twenty each.

The Acting Secretary is Dr. Ledingham, Lister Institute, Chelsea Gardens, S.W., to whom communications regarding the work of the Section should be sent.

SECTION OF MEDICINE.

Dinner.

The dinner of the Section of Medicine will be held at the Connaught Rooms, Great Queen Street, Kingsway, W.C., on Friday, August 8th, at 7.15 precisely.

Tickets, price 25s. (including wine and cigars), may be obtained from Mr. George Bethell, 11, Chandos Street, Cavendish Square, W.; and after August 5th also at the Royal Society of Medicine, 1, Wimpole Street, W., where the meetings of the Section will be held. Dinner tickets will not be obtainable at the Albert Hall, as announced in a previous notice.

LISTER MEMORIAL FUND.

THE following further contributions have recently been made to the Lord Lister Memorial Fund:

	£	s.	d.
Lister Memorial Committee (Oxford Centre)	146	13	0
Lister Memorial Committee (Cambridge Centre)	120	3	6
University of Leeds Committee	50	0	0
Corporation of Luton	3	6	6
Lahore Medical College	15	18	1
British Medical Association (South Indian Branch)	10	0	0
British Medical Association (Transvaal Branch, Pretoria Division)	10	0	0
Philadelphia College of Physicians ...	21	1	3
Royal Hungarian University, Budapest ...	20	0	0
University of Athens	19	15	0
Accademia Medico-Fisica, Florence ...	4	0	0
University of Tulane	4	0	0
University of Upsala, Medical Faculty ...	4	7	9
University of Nancy	4	0	0
Société Vaudoise de Médecine, Lausanne	4	0	0
Asiatic Society of Japan	1	1	0
Bath Clinical Society	3	3	0
Brighton and Sussex Medico-Chirurgical Society	10	10	0
Backburn and District Medical Society ...	9	0	0
Burnley Medico-Ethical Association ...	2	2	0
Cardiff Medical Society (second donation)	2	9	6
Derby Medical Society	3	3	0
East Sussex Medico-Chirurgical Society ...	7	0	0
Ilford Medical Society	1	7	6
Manchester Clinical Society	10	10	0
Medical Society of London	10	10	0
Norwich Medico-Chirurgical Society ...	5	5	0
Oldham Medical Society	2	2	0
Sheffield Medico-Chirurgical Society ...	5	5	0
South-West London Medical Society ...	3	7	6
University College Hospital Medical Society	3	3	0

Donations may be sent to the Honorary Treasurers of the Fund at the offices of the Royal Society, Burlington House, W.

BY the will of the late Mr. William Marles Gammond, of Cheltenham, the General Hospital in that town is given a half share in his residuary estate, and from this source will probably receive not less than £2,000.

AS already announced, the Royal Academy of Medicine at Turin offers the thirteenth Riberi Prize of 20,000 francs (£800). The competition is open till December 31st, 1916. Forms of intention to compete may be obtained on application to the General Secretary of the Academy, Dr. V. Oliva, at 18, Via Po, Turin.

THE extraordinary international meeting of the Belgian Society of Ophthalmology will take place on August 2nd and 3rd at Ghent. Addresses will be delivered by Dr. Ch. Abadie (Paris), Kurt Adam (Berlin), Professor von Hess (Munich), Professor J. Hirschberg (Berlin), Dr. E. Landolt (Paris), Professor Motais (Angers), Dr. Kurt Steindorf (Berlin), and Professor Rollet (Lyons).

SCIENCE NOTES.

THE high price of platinum is making it desirable to consider the claims of possible substitutes. From the point of view chiefly of the medical electrician and radiologist, Dr. T. Nogier, of Lyons, makes some interesting comparisons between platinum and tungsten, availing himself of exact figures just arrived at by the Société Française de Physique.[1] Platinum is supreme among metals for its inoxidizable qualities and because it is not attacked by acids; but tungsten also has the capacity of resisting atmospheric influences, and is not attacked by simple sulphuric, nitric, and hydrofluoric acid, though soluble when the two last are in combination. Platinum ranks third among the usual metals in respect of ductility, being preceded by gold and silver, and followed by aluminium, iron, and nickel, but tungsten is more ductile than the two last. The point of fusion of platinum (1750° C.) is lower than that of tungsten (2974° C. or higher), which is the highest of known metals. The atomic weight of platinum is 193.5, and that of tungsten 182.6, and as the intensity of x-ray emission in a focus tube is said to depend (other things being equal) on the atomic weight of the material constituting the target, platinum comes out rather better than tungsten for the purpose of anticathodes in radiogenous tubes. But with tungsten tubes an extremely fine focus is possible, and this is a great gain when tubes of precision are required for the radiological localization of fine details. The coefficient of expansion of platinum (8.901×10^{-6}) is very close to that of the glass used for incandescent lamps or radiogenous tubes, but that of tungsten is much smaller (3.36×10^{-6}), approximating to the coefficient of certain special glass, such as that of Jena. The specific electric resistance of platinum is rather higher than that of tungsten at ordinary temperatures, but in the case of the latter it is increased tenfold at high temperatures, which fact makes tungsten superior to platinum and to all other metals for the making of resistances. The cost of pure tungsten is only a small fraction of that of platinum; it is also less open to the reproach of "softness" on wear and tear, and Nogier thinks that for many ordinary electrical and chemical purposes the cheaper metal might be substituted.

The ferment action of the blood during pregnancy has of late attracted considerable attention. That the antitryptic power was raised, was pointed out in 1909 by Graefenberg and others, and Abderhalden has recently demonstrated the capacity of the blood serum during pregnancy with regard to the breaking down of placental albumins and peptones. In an article published last March (p. 678) some account was given of pregnancy based upon Abderhalden's observations. It has been stated lately, however, by Lindig,[2] that similar reactions may be obtained when the blood serum is derived from females suffering from genital growths; that in some cases of endometritis it may also give positive reactions, and that albumins from placenta, uterus, ovaries, genital neoplasms, and to a less degree muscles, are similarly broken down. The reaction seems to belong, therefore, to the general, rather than the specific, proteolytic processes. Neumann[3] has recently published some work on the pigmentations of pregnancy, and has worked out the oxidizing and reducing properties of the blood during the several months of pregnancy. He observed that when 0.2 c.cm. of serum was diluted with 0.8 c.cm. of a 0.85 per cent. saline solution and 0.2 c.cm. of adrenalin added, and allowed to stand under sterile conditions for four to six hours at 37° C., or for half to one hour at 50° C., the mixture was colourless when the serum was taken from the umbilical vein, but red when it came from the placenta or veins of a gravid female. Additional experiments allowed him to conclude that all human serums are capable of oxidizing adrenalin to a coloured product, that this property is much increased during pregnancy, that it is very slight at birth. The facts that it responds to alterations of temperature, addition of dilute metallic solutions, acids and alkalis, suggest that the nature of the reaction is that of a ferment, and that the increased oxidizing power of the

[1] *Archives d'électricité médicale*, May 10th, 1913.
[2] *Muench. med. Woch.*, 1913, p. 288.
[3] *Bioch. Zeitsch.*, Bd. 50, S. 347.

serum of the pregnant woman stands in close relation to the intensity of the pigment reaction. With regard to the reducing action of blood serum, there appears to be more reduction in the blood of the infant than in that of the mother. On the other hand, the serum of the child possesses very slight diastatic powers, while the diastatic action of the maternal blood does not appear to be raised above the normal. These observations are of considerable importance in relation to the pigmentations of pregnancy. At the same time, they indicate another possible pathway in the elucidation of some of the puzzling complications of pregnancy.

LITERARY NOTES.

It is announced that the Linacre Lecture, 1913, delivered at St. John's College, Cambridge, by Dr. Norman Moore, is to be published by the Cambridge Press as a book under the title of *The Physician in English History*.

Mr. John Murray will publish a book, entitled *Matter, Origin, and Personality*, by Dr. John Scott Haldane, F.R.S., Reader in Physiology, University of Oxford, who was a contributor to the volume of *Essays on Philosophical Criticism*, of which his brother, now Viscount Haldane of Cloan, was joint editor. Dr. Haldane's purpose is to examine what he calls the mechanistic theory of life and its bearing on the nature of personality.

In a paragraph entitled "A Medical Poet Laureate," which appeared in the Journal of July 19th, we quoted the words "meet audience let me have though few." We owe an apology to a greater shade than that of Wordsworth, to whom the words were attributed, for this transference to another poet of a verse in *Paradise Lost* (Book VII, line 30 et seq.). The misdeed, due to a slip of memory in the haste of writing, was made worse by some mutilation of the passage. Milton's words are:

> Still govern thou my song,
> Urania, and fit audience find, though few.

The greatest of medical poets is, past all question, John Keats, who is one of the glories of Guy's. Of course he was not a shining light of science, and he said of himself that his name was "writ in water." Yet that name will live as long as the English language. He is described in Wilks and Bettany's *Biographical History of Guy's Hospital* as "a loose, slack, not well-dressed youth, with large and lustrous eyes and hair of golden brown." He was apprenticed to a surgeon at Edmonton, and afterwards entered as a student at the United Hospitals. He lived in St. Thomas's Street with George Cooper, a dresser to Sir Astley Cooper, who placed the future poet under his care. Lord Houghton says:

> It soon became apparent that the profession for which young Keats was destined was too unsuitable to be maintained. There remain careful annotations of the lectures he attended, but when he had once entered on the practical part of his business he found his mind so oppressed with an overwrought apprehension of doing harm that he determined on abandoning the course of life to which he had devoted a considerable portion of his small fortune.

Wilks and Bettany go on to say that although Keats served a long apprenticeship, and was diligent as a student, he apparently abandoned the profession before he took any medical qualification. The *Dictionary of National Biography*, however, states that on July 25th, 1816, he passed with credit the examination for the licence of the Apothecaries' Hall.

Thomas Gordon Hake, M.D. of the University of Glasgow, who has been described by W. M. Rossetti as "the earthly providence of the Rossetti family," was a poet's poet; that is to say his verse, though greatly admired by poets such as Dante, Gabriel Rossetti, and Mrs. Meynell, was not attuned to the general ear. Nearly all his poetic work was produced after he was 50 years of age. "He retired from medicine," says William Bell Scott, "determined to cultivate poetry, and he was really accomplishing his object by perseverance and determined study." He held a recognized position in the literary society of his day. He died in 1895, in his 86th year.

Dr. James Whitton (Oamaru, N.Z.) writes:

When reading the article on false Latin occurring in the "Literary Notes" of the number appearing on April 12th last, I was reminded of another article, published in the *New Zealand Military Journal* for April last, describing how a small British force under a Major Brassey was besieged by the Maories at Pipiriki in 1865. The siege lasted over three months, and then, the enemy being reinforced by a fierce tribe called the Hauhaus, an attack was made on the fort; this lasted over three days, during which time the ammunition of the British was running short. Major Brassey determined to establish a "bottle post." The meaning of this is that it was intended to write a message in a bottle, put a feather in the cork to attract attention, then throw the bottle into the Wanganui river, the swift current of which it was hoped might bear it to the town of Wanganui, twenty-five miles away. After holding a council of war it was decided to write the message in Latin for greater security. Now came the difficulty; most of the officers had forgotten what Latin they had learnt. At last they decided to ask the surgeon, Dr. Suther, who was supposed to have some lingering familiarity with that language, owing to the necessity of writing his prescriptions in it. The surgeon wrote the message, and this is what he wrote: "Omnes sunt recti. Mitte res belle, statim." The bottle containing this message was picked up some time afterwards below Wanganui, and was forwarded at once to head quarters, whence a relieving force was at once dispatched in aid of the beleaguered garrison. It may be remarked that in this case, if the Latin was bad, the result was excellent.

The July issue of *Bedrock* is a particularly interesting number. "The Hermit of Prague" discusses the new mysticism as expounded by the Head Master of Eton, as to which we had something to say in the Journal of March 1st, 1913, p. 459. Professor R. C. Punnett writes on Mendelism, Mutation, and Mimicry; Mr. J. Reid Moir, on Prepalaeolithic Man; Mr. Hugh S. Eliot writes on Scientific Materialism, in reply to Dr. McDougall. There is a note on telepathy by "A Business Man," the same who caused the following statement to be inserted in the *Times* for several days in August, 1911:

> The sum of £1,000 has, during the past six months, been offered privately to the leading authorities and writers of repute on this subject for satisfactory proofs of so-called thought transference, but not one single case could be found; and it has now been decided to advertise publicly for the particulars required. Persons applying to the undersigned are requested to name their own terms for evidence that will stand cross-examination, and to state whether or not their communications are to be treated as confidential. Matthew Jarvis, solicitor, 4, Finsbury Square, London, E.C.

Though the replies were too numerous to acknowledge separately, no *evidence* could be obtained. The advertisement was copied into many foreign and colonial newspapers, and thus people all over the world were put on their guard against believing something that might not be true. The "Business Man" says he has tried to obtain from Sir Oliver Lodge, Sir W. F. Barrett, and Sir William Crookes definite facts in proof of telepathy and has offered considerable sums for them. He merely wanted one single case of telepathy, but this he did not succeed in getting. Sir Bryan Donkin writes on the Mental Deficiency Bill and its critics, submitting in conclusion that although the bill is limited in scope and will probably require future expansion in some directions, it gives power to deal efficiently with many of the most pressing and salient evils that have been amply proved to exist. Among the other articles are one by Dr. Archdall Reid entitled "Modern Science and Modern Rhetoric," and another on the milk problem by Dr. Eric Pritchard.

In an article entitled, "Medicine at Oxford in the Mid-Victorian Period," which appeared in the Journal of June 21st, we referred to the fact that Charles Darwin, when at Shrewsbury, was taken to task by the head master for wasting time, which should have been given to the classics, on such useless subjects as chemistry. The original passage, as it appears in Darwin's *Autobiography*, may be interesting, and we therefore quote it:

> Towards the close of my school life, my brother worked hard at chemistry, and made a fair laboratory with proper apparatus in the tool-house in the garden, and I was allowed to aid him as a servant in most of his experiments. He made all the gases and many compounds, and I read with care several books on chemistry, such as Henry and Parkes' *Chemical Catechism*. The subject interested me greatly, and we often used to go on working till rather late at night. This was the best part of my education at school, for it showed me practically the meaning of experimental science. The fact that we worked at chemistry somehow got known at school, and as it was an unprecedented fact, I was nicknamed "Gas." I was also once publicly rebuked by the head master, Dr. Butler, for thus wasting my time in such useless subjects; and he called me very unjustly a "poco curante," and as I did not understand what he meant, it seemed to me a fearful reproach.

British Medical Journal.

SATURDAY, JULY 26TH, 1913.

THE PRESIDENT'S ADDRESS.

THE President of the Association, in the admirable address published at p. 157, went out of the beaten track of such orations, and instead of surveying the medical world "from China to Peru," directed the attention of his hearers, and of that larger audience which is reached by the JOURNAL, to the medical history of the area of the Division in which the Annual Meeting was held. If Brighton as a town cannot lay claim to great antiquity, its neighbourhood is strewn with relics of a remote past, and within a short distance are many places which were the scene of events that are landmarks in English history.

The growth of Brighton, which for many centuries was scarcely appreciable, was stimulated into great activity in the early part of the last century by the light of fashion shed upon it by the patronage of George IV. Even since 1886, when the British Medical Association held its last annual meeting there, the population has largely increased. The growth in the number of resident doctors during the same period has been still more rapid. Whilst in 1886 the proportion was about 1 to every 800 of population, in 1912 it was 1 to about 700. This is the usual history of a health resort. As it rises in fame it attracts invalids in larger numbers, and this naturally entails a corresponding increase in the number of tutelary deities of the shrine. A conspicuous example is Salerno, which was a health resort before it developed into a great university. Wealthy sufferers from real or imaginary disease flocked thither from all parts of Europe, and the doctors followed them as the scope for the exercise of their art became greater. Gradually patients who had at first gone to Salerno to seek the benefit of its climate began to make the pilgrimage to seek counsel of the oracles of healing established there; in this way it was transformed into a great centre for the teaching and study of medicine. In these days, when universities are coming into existence on all sides, as the armed men sprang up around Cadmus, it is possible that Brighton may grow into another Salerno.

The President's gaze, however, is fixed on the past rather than on the future. He has evidently made the most exhaustive researches in the field of investigation which he has selected for the subject of his address. He goes back to the stone age, describing the pigmy flints which have been found at the back of the Downs. These implements have been used for blooding, tattooing, and even for trephining; of the performance of this operation evidence can be seen on neolithic skulls. There are no medical records relating to Brighton during the Roman period, though we know that the Roman armies had their *Medici cohortum* and *Medici legionum*, and it may be assumed that such officers were attached to the legions quartered in Britain. Physicians accompanied the Roman emperors who came to Britain, as many centuries later Ambroise Paré attended the King of France in several campaigns. It is scarcely surprising that there is no trace of doctors in the Brighton district during the Roman occupation and for many centuries after. The population was so scanty and so poor that doctors could not have found a sphere for practice there. As late as the beginning of the sixteenth century Hall refers to Brighton or Bright Helmstone as "a poore village in Sussex."

The fact is, as pointed out by Payne in his *English Medicine in Anglo-Saxon Times*, we have no evidence as to the state of medicine in England before the introduction of Latin Christianity by St. Augustine at the end of the sixth century. It is possible, he thinks, that the Christian missionaries from Rome brought with them, as is done by modern missionaries to heathen countries, some of the medical lore or practice with which they were familiar, that is to say, Roman medicine; but of this no trace remains. It is more likely that they treated disease, if at all, by prayers, unctions, and religious rites according to the custom of the early Church. We know that there were leeches in England from the seventh century onwards and many of these seem to have been laymen. There was also an Anglo-Saxon medical literature compiled, roughly speaking, between the time of St. Bede and the Norman conquest. Most of this has perished.

It is not till the latter part of the sixteenth century that definite mention is made of a doctor in Brighton. Little is known of the medical history of the town during the seventeenth century. Its medical history really begins about the middle of the eighteenth century, when Richard Russell preached the virtues of sea water and attracted large numbers of sufferers in search of health. New houses were needed for their accommodation, and the little fishing village grew into a town. After him came John Speed, Anthony Relhan, and John Awsiter, each of whom, in his own way, contributed to the development of Brighton into a health resort.

About the end of the eighteenth century the death-rate was very high, and there was a large excess of burials over christenings in Sussex as elsewhere. The unhealthy conditions in which the people then lived, and frequent outbreaks of small-pox and other infectious diseases, account for the heavy tribute levied on the population by death. It is interesting to learn from Dr. Ainslie Hollis that at that time ague was endemic in certain districts of Sussex. The mud flats and lagoons at the mouths of the small tidal rivers and sluggish streams along the coast were at certain seasons ideal breeding-places for gnats and mosquitos.

With the advent of the nineteenth century Brighton became the happy hunting-ground of quacks. The President gives some interesting particulars. One Nathan Smith extracted the gout by means of an air-pump, and his treatment was for a time fashionable. Another, Teddy Palmer, a blacksmith, used medicated air for the relief of toothache. A German spa was founded in 1824, in which thirteen different kinds of artificial water were supplied. The enterprise was a failure.

Quite early in the nineteenth century a small dispensary was founded; this was the germ of the Royal Sussex County Hospital, the foundation stone of which was laid in 1826. A number of sea-bathing infirmaries and hospitals for special diseases were established. An account of the hospitals, with illustrations, was given in the JOURNAL of January 4th (p. 32).

It is worthy of note that at the end of the eighteenth and the beginning of the nineteenth

centuries Poor Law officials evidently began to look to the medical profession for gratuitous assistance. Dr. Ainslie Hollis refers to Dr. Henderson, who in 1794 was presented at a vestry meeting with a silver cup for his care of the parish, and to an offer by Dr. Bankhead to attend the poor gratuitously, which was accepted by the churchwardens.

The medical makers of Brighton have been mentioned. Among the other notable members of the profession whose names are associated with the town are Sir Matthew John Tierney, who was physician in ordinary to George IV and William IV. He was a fervent disciple of Jenner, and did much to promote the adoption of vaccination. Another enthusiastic worker in the same field was John Badcock, who in 1840 succeeded in producing cow-pox by inoculating the animal with small-pox virus, thus confirming the experiments of Seeley on the same point. The great physician Thomas Addison retired to Brighton in his last years, and died there in 1860.

The President concludes with a reference to the presidential address of Dr. Withers Moore at the meeting of 1886. On that occasion Dr. Withers Moore expressed an opinion against the higher education of women. Dr. Ainslie Hollis points out that since then public opinion has greatly changed. There have lately, however, been signs of a reaction on this question in various quarters. In the July number of *Science Progress* Dr. Pembrey speaks in the same sense as Dr. Moore, and in far stronger language. Quite recently, too, Dr. Hochenegg, professor of surgery in the University of Vienna, declared that in his opinion —an opinion which he said was shared by many of his colleagues, and which was increasingly confirmed the more he became acquainted with women students of medicine—women are not adapted for the work of a medical practitioner. But the woman doctor is a fact that will remain when these echoes of old denunciatory voices have died away. The British Medical Association has, as the President says, always welcomed duly qualified women as members, and it is safe to predict that the general body of the profession will continue to regard their presence in its midst as an honour.

We congratulate both Dr. Ainslie Hollis and those who had the privilege of hearing him on an address which makes an interesting and valuable addition to the literature relating to the Queen of Watering Places.

THE ADDRESS IN MEDICINE.

PROFESSOR GEORGE MURRAY'S Address in Medicine, delivered at the Annual Meeting of the British Medical Association at Brighton, and printed on another page, gives an entirely admirable summary of the subject he has chosen to discuss—Some Aspects of Internal Secretion in Disease. The topic is among the most interesting of those to which experimental medicine and experimental pathology are now devoting so much attention. We doubt if anybody better qualified for the purpose than Professor Murray could have been found to introduce the subject to his listeners at Brighton or his readers in this JOURNAL, for he speaks and writes with the authority of knowledge gained at first hand over a long period of years, and it is to him that the practical application of treatment by glandular extracts, now so widespread, is largely due.

The history of the steps that led up to this application is detailed in the Address, so need not be repeated here; it is mainly as a result of the great success that attended thyroid medication from its earliest days that we now find ourselves living in an age when the actions of internal secretions or of their disorders are offered as explanations of every process of health or disease that goes on within our bodies. Experimentalists and clinical observers have been many, and by this time we have at our disposal a large mass of evidence dealing with the functions of the thyroid gland in health and disease. Professor Murray tabulates this knowledge for us, and with a soundly conservative and critical sense points out the extent and the limits of our knowledge and the many points where knowledge ends and speculation begins.

It is particularly necessary that this ungrateful task of discriminating between knowledge and guesswork should be performed in the case of a subject like internal secretion, because it is only fair to say that it cannot help being somewhat theoretical and speculative in its early days. Nothing can be more difficult than to prove the facts about the internal secretion of a gland in health and disease; no more complicated problem can be propounded for solution to the experimentalist and clinician, who must, after all, have some working hypothesis to guide their researches. But nothing can be easier than to invent countless theories, hypotheses, and explanations to account for the phenomena seen when the ductless gland is diseased and its secretion altered, and to explain the correlation between the patient's morbid symptoms and the changes found in the gland. Speculations, whether made on the Stock Exchange or from the safe depths of the philosopher's armchair, have always had, and always will have, a fatal attraction for mankind. Speculations as to the functions and correlations of the various internal secretions can be made with a fatal facility, yet they habitually serve only to darken knowledge, and often are even misleading; too many of them have flooded the literature of the subject already, and Professor Murray's address serves a most useful purpose in pointing out the moral: "Prove all things; hold fast that which is good." Generalizations are good servants, but bad masters, particularly when they have been made upon insufficient and even faulty bases, as has commonly been the case with the brilliant imaginings to which so many writers on the ductless glands have treated us in the last few years.

The greater part of Professor Murray's address is taken up with considerations about the thyroid gland, but he also found time to mention the other chief glands with an important internal secretion—the parathyroids, the pituitary gland, the pancreas, the adrenals, and the generative glands in both sexes. If it is difficult to unravel the connexions between the disorders of any one of these glands and the morbid picture produced by those disorders, the difficulties must be much greater when not one but two or more of these glands are simultaneously diseased. For example, it may happen that the thyroid gland alone is affected in one case of myxoedema or of Graves's disease, but that in another both the thyroid and the parathyroid glands are diseased; Professor Murray himself recorded a couple of cases, many years ago, in which acromegaly, Graves's disease, and diabetes were combined with pulmonary tuberculosis. The thyroid gland and the pancreas appear to be connected closely with one another, though it is not possible to define the connexion in any certain way at the present time. The absence of sexual development at puberty in cretins and in cases of pituitary insufficiency clearly indicates that both the thyroid and the pituitary gland normally exert a powerful influence on the development of the testis and the

ovary. During the last few years there has been a tendency to assume a general interdependence of the ductless glands one upon the other, and to attribute various forms of dwarfism, gigantism, mental deficiency, obesity, and so on, to a general defect of the activity or development of these glands. In this way a loose clinical concept known as the "polyglandular syndrome"—the term "pluriglandular" is perhaps less offensive than the hybrid "polyglandular," and may be substituted for it—has made its appearance in the literature. There is nothing to be said against the use of such names as this so long as their limitations are recognized. They do good service, no doubt, in so far as they draw attention to the fact that the ductless glands, or some of them, are at fault in some way or another. But they are purely harmful when taken as explaining the pathology of any given case, as has often happened in the past, and when they gloss over the need for further observation and research.

Anxiety to be fully up to date and to keep abreast of the progress made in medicine and the allied sciences is an emotion fatal to the critical faculties, as Professor Murray points out. There has been a boom in ductless glands and internal secretions during the last few years, and notable advances have been made in consequence—witness the excellent clinical and experimental contribution to our knowledge of the pituitary gland made by Cushing, of Baltimore, last year. It is by the sound and steady work of clinicians such as Professor Murray, and experimentalists such as Cushing, to mention only two out of a number of the men of science to whom our thanks are due, that this progress has been made, and not by the many theories of the many speculative philosophers who have pullulated in the track of such original workers as these.

THE ADDRESS IN SURGERY.

IN the laudable emulation of surgery and medicine the surgeon has felt a not unnatural pride in the enormous progress of his art, and has been, perhaps, apt to think that as his horizon widened, the scope of the physician became correspondingly limited. But this is a somewhat narrow view. These two great divisions of the healing art must ever march hand in hand, mutually helpful, sympathetically forbearing, reciprocally stimulating. If the sphere of the one expands it necessarily means expansion of the sphere of the other. Surgery must be alert to seize the opportunities given to it to solve the problems and elucidate the difficulties of medicine, which must in its turn be glad to see the light more clearly and come with hands full of new questions to answer and new knots to unravel. "The Gifts of Surgery to Medicine" is the theme of Sir Berkeley Moynihan's address. And the development of the theme and the watching for the oft-recurring *Leit-motif* will prove of absorbing interest to every member of the profession.

Nec silet mors is a striking, even inspiring, motto for the pathological investigator. But the thought that there is a "pathology of the living" is more uplifting still. Half a century ago we were dependent for our knowledge of actual morbid processes in internal organs upon clinical history and evidences of the disease, and upon the appearances and conditions found after death. The former dealt with things unseen and difficult to understand or appreciate with the diagnostic means at our disposal; the latter gave little indication of the state of affairs present during life—late signs could not explain early symptoms. Sir Berkeley Moynihan has often shown the fallaciousness of *post-mortem* room statistics, and how impossible it is to measure the sufferings of patients during their lives or estimate their chances of death from any disease from experience gained in *post-mortem* examinations. People commonly do not die of the chronic diseases from which they suffered in various periods of their lives. So far as surgery is concerned the cases which reach the pathological department are the acute terminal affections, malignant disease in all its forms, and the accidents of everyday life.

Now it is the aim of surgery to attack diseases long before the approach of the last phase. At first only acute conditions—perforations of the hollow viscera, acute and gangrenous appendicitis, acute intestinal obstruction (really a symptom mostly)—were attacked. But in time it was seen that these were final stages, the terminal events in the history of diseases whose course and progress had already been indicated by various signs and symptoms, and the surgical attack began to be made earlier. And then, just as Virchow heralded the dawn of a new era in pathology by not resting content with the examination of the suspected organ alone, but only with a search into the condition of every organ and structure in the body, so surgeons in operating in quiescent periods under favourable conditions were not content to investigate and remove the immediate source of the mischief, but searched diligently, and often successfully, for other diseases, associated or not. The conviction exists that many abdominal diseases stand in close causal relationship to one another. Infection carried by lymphatics or by the blood stream or by ascending mucous currents is the essential prime evil, so that in general terms one common cause may be held accountable for many of the abdominal diseases which the surgeon has to treat.

How, then, is the pathology of the living to be worked out? How does the surgeon feel justified in the patient's interest primarily, in that of surgical science secondarily, in extending his observations on the operating table beyond what appear to be the actual needs of the case? This justification, the right we may call it, belongs to the surgeon through the possession of three great principles or powers—general anaesthesia (the orator's preference is for ether), asepsis, and anoci-association. The first two of these are the foundation of the whole modern surgical structure. The third is new. The term—a hybrid, rather clumsy and obscure—is the invention of Crile, as also are the principle involved and the details necessary in its working. It means the removal or exclusion of all possible sources of shock, and the establishment of an innocent, blissful state of well-being, in a patient undergoing a surgical operation. Crile believes, and has proved, that every form of physical violence, tearing and rough handling of tissues, even under a general anaesthetic, is an assault on the organism, and is appreciated in the brain; even every form of psychical disturbance, such as being rushed without warning into the operating theatre, or waiting in suspense for the summons to undergo the ordeal, fear for the result and anxiety for the future, are also insults to the brain cells. He advocates as a routine method the preliminary administration of scopolamine-morphine, and locally cocainization, or introduction of quinine or urea into the tissues, especially the parietal peritoneum, and finds that his results have greatly improved since

its adoption. Sir Berkeley Moynihan warmly supports him; he has operated for many months after this preparation, and finds an added pleasure in his work which is "really immeasurable." This discovery of Crile constitutes a fitting complement to the discoveries of Morton and Lister.

Armed with these three powerful weapons in his fight with disease, the surgeon finds now no place for inactivity, the waiting for developments, forced on past surgical generations. The application of the modern method is well seen in the story of some stomach disorders narrated by Sir Berkeley Moynihan so graphically, and, when one remembers his own achievements, so modestly and with such anxiety to give credit where credit is due.

Gastric ulcer a generation ago was a condition in which every physician, in the presence of certain well-defined characteristic symptoms, felt sure of his diagnosis. But when gastro-enterostomy became the approved surgical remedy and many suspected stomachs were examined, it was often found that no ulcer was present—that, indeed, stomach and duodenum were perfectly healthy. Therefore the scope of inquiry had to be widened, and in the majority of cases it was found that "gastric ulcer" was not a lesion of the stomach at all. More often than not it was a lesion of the appendix. Disease of the appendix means infection and obstruction, and in acute cases changes in the stomach wall are seen—vivid injection, deep congestion of the pyloric portion of the stomach, irregular, strenuous muscular contractions, enlargement of the subpyloric group of glands. These changes, induced by distant infection in the appendix or elsewhere, may be, and most probably are, "precursors and excitants" of a chronic ulcer of the stomach. This discovery is a gift of surgery to medicine.

Then, again, another most notable of the gifts of surgery to medicine is the proof, in Sir Berkeley Moynihan's words, "that in a large proportion of cases the onset of cancer of the stomach is not a new and unaccountable thing, but is, on the contrary, a tardy development upon an earlier condition which for years had clamoured for recognition." To this portion of the address we invite the most careful study of the whole profession, and perhaps, too, the attention of the public. Here will be found a clear, thoughtful exposition of all that we know of the mysterious change which converts a chronic ulcer of the stomach into a cancer. Here, too, will be found temperate advocacy of the courageous enterprising surgery and elaborate, painstaking sifting and sorting of living specimens practised by the members of the Mayo Clinic. They do not hesitate to resect the stomach or large portions of it, "not only for chronic ulcers in the vicinity of the pylorus, but also for those tumours which might be due to ulcer or might be due to cancer."

The truths that we now know about duodenal ulcer—that disease so seldom heard of in *post-mortem* rooms but so frequently operated for in hospital—of the relation of infective processes to gall stones—"the tombstones erected to the evil memory of germs that lie dead within them"—of diseases of the pancreas, hitherto debatable and unexplored land, are all great gifts of surgery to the sister science.

Sir Berkeley Moynihan's excursion in quest of these good gifts has been limited to the upper part of the abdomen—a region in which his pioneer work was as meritorious as that of any explorer in geographical arctics or tropics. But the purpose of his address will be inadequately fulfilled if there be any ground for fear that his hearers or readers will not at once for themselves search other regions and other branches of our art for examples of gift-bearing. We feel confident that every true-hearted doctor, no matter what his sphere of practice may be, will rejoice in the eloquent words of the last paragraph of this oration. He will recognize that the orator would have him remember that every operation he performs in his daily avocation is an experiment from which something may be, and ought to be, learnt, that every clinical observation is an addition to the sum total of knowledge, not only of the disorders of the human body but also of its orderly working. It is the individual sufferer upon whom he concentrates his attention for the moment, but every medical practitioner knows that in helping him he is himself advancing along the road that leads to more light and clearer, wider outlook.

ANNUAL MEETING NOTES.

PROLEGOMENA.

THE meeting this year is taking place in what, from an annual meeting point of view, are decidedly novel surroundings. Of late years these gatherings have always been held either in university towns or at great industrial centres, while this year the members are assembled in what is primarily a health and pleasure resort. Brighton and Hove, however, reign as the joint queens of watering places, and, thanks to this fact, they together constitute a considerable city which provides everything that the Association can require in the way of accommodation for Representative Meetings and the work of Sections, quite apart from endless opportunities for filling in odd moments by amusements of various kinds. The Representatives, who, as usual, assembled two or three days ago before the rest of the members, are under the special protection of the Mayor and Corporation of Hove, and have been doing their work in Hove's Town Hall and its connected buildings. The Sections, on the other hand, sixteen in number, are accommodated at the Training College and Technical School of Brighton, which are within convenient reach of the Reception Rooms and general head quarters. The latter are established at a residence, built for himself in his salad days by a certain *Georgius Rex* of not too happy memory, which has become famous under the title of the Pavilion. Whatever may be thought of its semi-Byzantine, semi-Oriental architecture, and whatever memories may be evoked of past scandals connected with its interior, it lends itself very happily to its present use. Its main door is approached through an attractive garden, and as it possesses so many rooms of noble proportion it has been easier than usual to provide not only ample accommodation for the reception of members, but a drawing room and writing room for ladies, together with corresponding amenities for members in general. The decorations of many of the rooms are much what they were in early days, and if much of the furniture is not really that which was used by the Regent and his more or less courtly associates it is of sufficiently antique appearance to pass for the same. To the romantically minded these circumstances give the meeting a special flavour of its own, and at all events they enable the JOURNAL, which in the course of its prolonged existence has had many homes, to boast that for a few days, at any rate, part of its work has been done in the bedchamber of a king. That chamber, moreover, is still decorated with the tapestries which presumably greeted the royal eyes when first they opened in the morning—at times in all probability somewhat heavily—while within arm's length is a cupboard which in the daytime possibly housed the regal early nineteenth century equivalent for a modern

suit of pyjamas. The only misfortune is that the odour of grace and wit still hanging round the whole building cynically refuses to allow itself to be metamorphosed into cold type.

"DR. BRIGHTON."

NEVER since Thackeray first acclaimed his therapeutic skill has Dr. Brighton enjoyed anything but an excellent reputation, but only on one previous occasion has he received so high a compliment as that implied in the fact that many hundreds of medical men have voluntarily placed themselves in his hands for a week's treatment. On the part of his clinical assistants nothing was lacking in the fashion of the reception of these claimants to his services, but Dr. Brighton himself can hardly be considered to have exhibited his best bedside manner. Indeed, for the first few days, leaving Sunday out of count, he was in his gruffest mood, frowns in the shape of rain storms being common, while throughout the rest of the week up to the time of going to press the weather has been eminently English, seeing that it has consisted mainly of samples. It must be admitted, however, that the samples have been of the best kind, the wet intervals being accompanied by a pleasant warm and yet bracing quality in the air, the streets drying quickly and the succeeding sunshine leaving no doubt as to the clarity of the superambient atmosphere. In addition, the doubtful character of the weather has had a distinct advantage for those whose attendance at the annual meeting has been partly induced by a desire to see how far the town lends itself to the needs of convalescent patients. They were able to observe that Brighton is by no means a fine weather place only. Apart from possessing the ordinary amenities of a large town for mental recreation in the way of picture galleries, museums, theatres, and musical entertainments, it affords opportunity for outdoor exercise even in the wettest of weather. In addition to a vast number of well protected seats for those who wish to rest a while, there is the Madeira covered promenade, and the ends of both piers (one being approximately three-quarters of a mile in length) can be reached without getting wet, thanks to the existence of a covered walk from end to end. We have used the term "large town," and it is well perhaps to lay emphasis on the fact that Brighton and Hove—which from the point of view of visitors, though not of ratepayers, are one and the same place — constitute a very large town indeed. Spread out as it is along several miles of sea front, it is not easy to realize that Brighton with a population of not far short of 180,000 is from a public health point of view statistically comparable with the dense aggregations of industrial life to be found in the Midlands and the North of England, which in all other respects differ from it so vastly. Yet in the eyes of a medical man who has to choose a place to which to send a convalescent patient the fact that Brighton, despite its unlikeness to its compeers in the matter of population, must be written down as one of the largest towns in the British Isles, is a point of considerable importance. It implies not only the employment of the most up-to-date arrangements for keeping the health of a population in good order, but also the availability of medical skill of the highest kind and of every facility for turning it to good advantage. Having said this it should be added that it is by no means only to the wealthy that the full benefits of Brighton as a spring, summer, and autumn health resort are available; means of locomotion are plentiful and inexpensive, and thanks to this fact it is easy to take advantage of the proximity of the neighbouring Downs. A tramway, for instance, brings the visitor within easy walking distance of the famous Devil's Dyke, with its invigorating moorland air and a vista of five counties, while for the outlay of a shilling one can mount in a motor coach to the very top.

TEMPTATIONS.

IF by the end of the week it turns out that a really creditable amount of work has been done by the Sections, it will be the outcome of great self-restraint on the part of members, coupled possibly with constant repetition of the scientific equivalent for *Retro, Satanas!* At Brighton, in short, the Entertainments Committee, private individuals, public authorities, and last, but not least, Nature itself, have combined together to endeavour to lead members astray from the path of sectional virtue. Most practitioners of medicine are habitually more or less overworked, and few can have failed to experience a temptation, both on arrival and on daily rising, to forget the meeting altogether—simply to sit on pier or parade in one or other of the abounding shelters and absorb ozone while listening, perhaps, to the music of Brighton's many municipal orchestras. Owing to the tonic quality of the atmosphere, this mood usually will soon have passed, the average man's thoughts then straying towards golf, tennis, bowls, the practice nets on the cricket ground, a cruise in a boat or on a motor coach, or a dive from the spring board at the Deep Sea Swimming Club on the West Pier. All these diversions have been open to him in the mornings, and in addition he has had to withstand the attraction of viewing the world from a comfortable armchair in the window of one or other of the local clubs. Hence the average man may rightly congratulate himself if at the end of the week he finds that he can honestly claim to have put in two and a half hours daily at Section meetings, in addition to examining the specimens that the Pathological Committee has got together, making a round of the exhibition of appliances, books and drugs; visiting one or other of the institutions of a medical order which have been thrown open to inspection, and duly attending the delivery of Professor Murray's address on Internal Secretions, and that of Sir Berkeley Moynihan on the Gifts of Surgery to Medicine—not to speak of official events such as the President's oration, which have taken place at hours when section work has ended for the day.

ORGANIZATION.

IT has sometimes been suggested that a medical curriculum, coupled with a year or two's experience of practice, constitutes an excellent training for careers totally different from those commonly pursued by medical men; and support for this view has often seemed to us to be afforded by the underside of the Annual Meetings of the Association. The work involved by these, not only in preparing for them, but also in carrying them through smoothly, is of such a kind that it might well test to the full the capacity of professional organizers. Yet year by year in different parts of the United Kingdom success is attained by men who have had no training directly intended to equip them for such work; who are not commonly possessed of the mental instincts which turn men naturally towards work of a business kind; and who, during the months that the meeting has been in course of preparation, have been fully occupied with the cares of private practice or other professional duties. It is true, of course, that the workers at each town obtain some guidance from the arrangements that have been made elsewhere in previous years, as also from the head quarters of the Association, but this fact hardly makes their recurring success the less remarkable, since there are vast differences in the distinctive circumstances of each town and in the special difficulties which these create. In Brighton the work has been divided among thirteen committees, and the Executive has been particularly successful in enlisting the co-operation of medical men practising in the area of Brighton and Hove, whether members of the Association or otherwise, as also the active assistance of many of the more prominent lay residents and others connected with these two

towns. We note, for instance, that the Committee of Management, which has as Chairman Dr. Ainslie Hollis, the new President of the Association, and as Secretary Dr. L. A. Parry of Hove, includes, in addition to the Mayors of Brighton and Hove and a number of clerics, the Duke of Richmond and Gordon, the Duke of Norfolk, Lord Leconfield, the Hon. J. E. Gordon, and Captain Tryon, the two representatives of the constituency in the House of Commons. The President and Dr. L. A. Parry are also Chairman and Secretary respectively of the Executive Committee, while Drs. H. H. Taylor and A. M. Daldy play the same parts in relation to the Finance Committee. The Ladies' General and Executive Committees are both headed by Mrs. R. F. Jowers and Miss Hollis as Chairman and Secretary respectively, while the Chairmen and Secretaries of the other committees are as follows: The Local Entertainment Committee, Drs. R. Whittington and Geoffrey Bate; the Reception Committee, Drs. J. F. Gordon Dill and L. A. Parry; the Excursions Committee, Drs. E. Rowland Fothergill and P. Stanhope Eves; the Soirée Committee, Drs. C. H. Benham and A. M. Collcutt; the Hotels and Lodgings Committee, Drs. Walter Broadbent and A. H. Copeman; the Printing and Publishing Committee, Drs. George Morgan and Ernest Burchell; and finally the Pathological Museum Committee and the Dinner and Luncheon Committee. Both of these have two secretaries, those of the first named being Drs. Walter Broadbent and H. M. Galt, and of the second, Drs. S. B. Figgis and H. J. Walker, while their respective chairmen are Dr. E. Hobhouse and Dr. Ryding Marsh.

Church Services.

THIS year the religious services, which constitute an official and regular feature of Annual Meetings, were again held not immediately after the induction of the new President on Tuesday afternoon but on the following day. The Anglican service, which was timed for 3.30 p.m., was attended not only by the President and members in academic robes but also by the Corporations of Brighton and Hove. The whole party first assembled at the Pavilion and then marched in procession to St. Peter's Church, where the lesson for the day was read by the Chairman of the Representative Meetings, Mr. Jenner Verrall, and the sermon preached by the Precentor of Lincoln Cathedral, the Reverend Canon Wakeford. Subsequently a collection was made on behalf of the Royal Medical Benevolent Fund, Epsom College, and the debt on the chancel of the church. Taking as his text St. John xix, 20, "It was written in Hebrew and Greek and Latin," Canon Wakeford pointed out that the title on the Cross of Calvary suggested the universality of the Gospel; it was not only for all men but for the whole man—spiritual, intellectual, and physical. The claim of Christ was on man in his entirety and totality, and the truth needed for its reception, not some particular faculty, but that capacity which Christianity had discovered to be common to all men—that right harmony of mind and soul, of intellect and affection and emotion, which constituted the true health of man. Health was wholeness, and a man should bring into his reckoning all the contents of his nature if he would have health in any part of his being. In every science specialization tended towards disproportion, and in medical practice a further danger arose out of a natural emphasis of the physical values. In the close relations of soul and body, however, action and reaction were so intricate that no disorder was simply physical, nor only mental. This being the case, cure must be as extensive in its scope as disease. If this truth were neglected the revenge came in some strange folly which mocked alike at Christianity and at science, while claiming the name of both. It was sometimes through misstatements that certain truths were first forced upon attention, and one such truth was that the whole man—physical, intellectual and spiritual—should be the object of a medical man's care; his purpose should be to promote sanity of body and soul in every man to whom he had to minister. The processes which he directed and guided were not an end in themselves, though they might at times so claim attention as to exclude from thought their ultimate purpose; they were merely means through which causes passed into effect. Physical science found its data in matter patent to the physical senses, and its conclusions were of necessity on the same plane as its premisses. Yet no man knowing himself would agree that his own consciousness was fully satisfied by a self or a universe in which nothing transcended matter. Paulsen in his destructive criticism of Haeckel's theories took up this position, confidently arguing that a true self-knowledge involved the recognition of God. As one pushed the exploration deeper it was to find not less but more necessity for God, and larger experience dismissed the trite assumption that life was rather more than a chemical product, since it brought man to confront presences or powers of which he was conscious without the aid of argument or external symptom. If it were impatiently asked why men are not fully informed of the spiritual existence and of divine purpose, surely it was just to answer that God would naturally use that reserve which appointed that a medical prescription should be written in Latin. It was necessary reserve that demanded some capacity for understanding, and so prevented ignorance from misusing the doctor's skill. The difficulties and troubles of life, as also pain itself, might together school man and bring him to his true development. Indeed, one might ask, as had the great mystic of the present day—

> Is my gloom, after all,
> Shade of His hand, outstretched caressingly?

The three languages in which the title of the Crucified was written were commonly used at the festivals of the Jews to warn trespassers not to invade the sacred places of the Temple. So, too, should the sanctities in man's nature always be reverenced. One lost much and gained nothing by a light disregard of due restraints. A medical man's skill was not hampered nor his service less if he recognized the sacredness of life and acknowledged the mysteries of birth and death as still inscrutable. The humility and modesty which marked the world's greatest thinkers were a fit acknowledgement that the fear of the Lord was the beginning of wisdom, and that they had a good understanding who kept His commandments.

The corresponding service for the benefit of Roman Catholic members took place on the same day, but at a much earlier hour—namely 9 a.m. It was held in the church of St. John the Baptist, and consisted of Mass, in the course of which the Right Rev. Canon Monsignor Johnston delivered an address to the following effect: Quoting the words "In Him we live and have our being," Monsignor Johnston said that in the chapter of the Acts in which this sentence occurred it was recorded that St. Paul, who had been specially appointed as preacher to the Gentiles, found himself in Athens, which was then the centre of the world's civilization, and a place inhabited by those who rightly considered themselves to be the most refined and scholarly men of that time. Standing on the Areopagus and addressing a gathering of these men on the subject of their learning and the system of logic and religion which had sprung from it, St. Paul said:

> Ye men of Athens, I perceive that in all things you are very religious, for passing by and seeing your idols, I found an altar also on which was written, "To the Unknown God." What therefore you worship without knowing it, that I preach to you. God who made the world and all things therein and hath made of one blood all mankind to dwell upon the whole face of the earth, that they should seek God, if happily they may feel after Him or find Him, for in Him we move and live and have our being.

Having suggested this picture of an event in the very

earliest years of the Christian Era, Monsignor Johnston continued: "And now, brethren, it is good to see a number of men to whom we look up as representing culture and the deeper things of science and thought gathering together in the midst of their deliberations during these days of the meeting of the British Medical Association for the purpose of expressing their sense of dependence on their Creator Almighty God. The precise details of this manifestation of feeling may differ, but all of us alike are endeavouring to-day to show our loyalty and feeling of respect towards God. We Catholics are gathered round the altar at this early hour of the day in order that in the Mass, which is the centre of our worship, we may give to our Creator what we know to be the highest offer of sacrifice, prayer, and praise. It is not unfitting that the priest should take some part in your work and interests and give you a welcome, as I do from my heart to-day. In other days the man of bodily healing and the man of spiritual helping were one; indeed the writer of the Acts, St. Luke, is spoken of by St. Paul as the beloved physician, and as we have it by tradition that he was an artist too, he was physician, artist, priest, and writer, all in one. I am about, brethren, to say my Mass for you, and I will venture to give you some subjects of prayer. In the first place, I will ask you to thank God for your high vocation. It is indeed a true vocation, for nothing else can account for the splendid work and devotion of the medical man. We priests have a high vocation also, but believe me, it is a source of strength to us—a strong edification to us priests in our years of work—to see by our side, in the hospitals and the homes of the sick, the devoted love and skill of the doctor. Then, pray that you may realize more and more the responsibility of your great calling; it is indeed a responsibility, since the confidence we have in you and the trust that we place in you is very true and intensely real." On the conclusion of the service Monsignor Johnston very kindly offered to show those present round the church, which among other objects of interest contains the tomb of Mrs. Fitzherbert, the morganatic wife of George IV.

THE ANNUAL EXHIBITION.

THE annual exhibition was ready for inspection this year at 2 o'clock on Monday afternoon. This promptitude reflects much credit on the employees of the various firms which have taken stalls, since the unpacking of goods and their suitable display are not easily completed tasks. The building in which the exhibition is housed is rather happily selected; though known as the Corn Exchange, it is to all intents and purposes part of the Pavilion itself, and was in fact its private riding school at the date when the Court spent much of its time at Brighton. As has been the case during the past two or three years, the exhibition was accorded the honour of a formal opening. This took place at half-past eleven on Tuesday, when the Mayor of Brighton, Mr. C. G. Thomas-Stanford, accompanied by the Lady Mayoress, the President of the Association, and the principal executive officers of the meeting, visited the building, and after delivering a short address declared the exhibition open. In the course of his remarks he observed that even a cursory glance at the exhibits enabled him to say that they were eloquent of the great advances that had taken place not only in the theory of medicine and surgery, but also in the means of applying the knowledge that had been gained. The array of electrical instruments that faced him was a case in point, and before he left the building he hoped to have enlarged his information greatly. Mr. Thomas-Stanford's courtesy in attending to open the exhibition was acknowledged by the President, who indicated that the suggestion made by him was well-founded. It was true that the advances made by medicine and surgery of late years had been very great, and it was possible that medical men did not always realize to the full how much they owed to those who primarily laboured in the cause of the connected arts and sciences. In addition to remembering that of these great discoveries of the last few decades which had been turned to such excellent advantage by medical men and surgeons, many emanated from students of other sciences, clear recognition should be accorded to the work of the artisans and mechanics, through whose skill and labour ideas originating in the minds of great thinkers had been made possible of effective realization. The fact was that in the present age the various sciences were happily dovetailed one into the other. The President illustrated this point by mentioning some of the inventions and discoveries for which medicine and surgery had to thank pharmacists, opticians, instrument makers, and their kin, finally emphasizing the moral by a brief allusion to the days when every practitioner was practically dependent on his own efforts for his means of treatment, and citing an apt passage from Homer as evidence. Dr. Hollis by no means overstated his case, for the skill shown by manufacturers in seizing upon every fresh suggestion in the way of treatment, and making it promptly available to all those who care to test its merits is remarkable. This annual exhibition, indeed, is one of the most useful features of the meeting, since it covers so wide a field as to serve as a practical illustration of the advertisement pages of our own and all other medical journals, coupled with the advantage of being able to examine at leisure, and without fear of importunity, to purchase a carefully selected assortment of everything that is most attractive in the way of new instruments, books, pharmaceutical preparations, surgical appliances, and all other things intended to facilitate medical and surgical work in its various branches.

SOCIAL DOINGS.

BRIGHTON is on all occasions given to hospitality, and it need scarcely be said that during the current week it is not belying its character in this respect. A large proportion of the more distinguished visitors are the guests of private persons, and a great deal of other hospitality of a miscellaneous order has been, and still is, in progress, apart from the many entertainments of a regular order which were officially prearranged. The first large gathering was that on Tuesday night at the Dome, an event to which added interest was lent by the fact that it was made the occasion of the presentation of the Association's Gold Medal of Merit to the highly popular Chairman of its Council (Dr. J. A. Macdonald). A full account of what took place on that evening will be found elsewhere in this week's SUPPLEMENT. The second great gathering was also at the Dome, the event being a concert and ball given on Wednesday night by the Mayor and Mayoress of Brighton (Mr. and Mrs. Thomas-Stanford); for the moment nothing can be said of it beyond stating that it was a great success. The third great gathering is actually in progress at the moment of going to press, this being a garden party given at St. Anne's Well Garden by the principal representative of the Association's other host this year—namely, the Mayor of Hove; while late in the evening of the same day, after the annual dinner of the Association, a display of fireworks on Hove Lawn will doubtless bring together all and sundry. Meantime a garden party has already taken place at Wick School on Wednesday, the host being Mr. L. P. Thring; and two corresponding events—one to be given by Dr. and Mrs. Holmes Meyrick at Sylvan Hall, and the other by the Misses Laurence of Roedean School—are appointed for Friday. On the latter day, too, tea party visits will be paid to Lewes and to the open-air bungalows at Lancing and Shoreham, the day concluding with a reception at Hove Town Hall, given by the President and members of the Brighton Division.

Hospitality has also been forthcoming from other bodies to which the Association habitually accords facilities for meetings on occasions like the present, the Irish Medical Schools' and Graduates' Association having given a luncheon party on Wednesday, while the National Temperance League issued a general invitation to breakfast on Thursday. On Saturday as many as six expeditions are in view.

Sir Arthur Conan Doyle.

In addition to receiving, as usual, a very hearty welcome at their first meeting on Friday from their special hosts—who this year are the Mayor and Corporation of Brighton's twin sister, Hove—the Representatives of the Association were on Sunday the recipients also of a very graceful courtesy on the part of Sir Arthur Conan Doyle. Assembling to the number of over a hundred, in the early afternoon, they drove out in motor coaches as his guests to take tea at Windlesham, Sir Arthur Conan Doyle's residence near Crowborough. It was an admirable way of spending Sunday afternoon, for not only was the weather at its best, but the route going and returning traverses over fifty miles of the most beautiful part of Sussex. Just before reaching Crowborough, the ubiquitous boy scout jumped into view, and pointed out the way, and on arrival at Windlesham, about 4 p.m., they found awaiting them Sir Arthur and Lady Conan Doyle, a small house party, and several medical men practising in the neighbourhood. After exchange of greetings in the house a move was made into the grounds, where tea was served on the lawns, the guests being subsequently shown, in a combined billiard room and lounge, a collection of curios more or less closely associated with Sir Arthur Conan Doyle's literary labours. Before the party broke up, the hospitality received was appropriately acknowledged by Dr. C. H. Milburn of Hull and Dr. Stanhope Eves. The former made a happy allusion to the fact that most medical men have on innumerable occasions received refreshment and entertainment at Sir Arthur Conan Doyle's hands, though not quite in the same fashion, and the vote of thanks for which he called was acclaimed with cheers. In the course of his response Sir Arthur Conan Doyle observed that he had the warmest feelings towards his old profession, and that the opportunity of renewing acquaintance with his old colleagues and entertaining them at tea was a source of great pleasure to him. Alluding to his former work as a medical man, he recalled that once in America the chairman at a dinner at which he was present remarked that it was a sinister fact that although Sir Arthur Conan Doyle was supposed to be a doctor no living patient of his had ever been seen. Apart from affording the Representatives a pleasant afternoon, Sir Arthur Conan Doyle's hospitality has a special interest of its own. In the eyes of the world Sir Arthur Conan Doyle is solely one of the great novel writers of the day, and Crowborough is a long way from Brighton; yet on an occasion when Representatives of the medical profession are assembled together at the latter place for the purpose of consulting how best to promote the interests of medicine and to protect its adherents from legislative and other attacks, he has elected to express his sympathy with them in a very direct manner. There are a good many men who have left the profession of medicine to attain eminence in other walks of life, but not all of them acknowledge the claims that it still has upon them in a correspondingly altruistic fashion.

Lodgings and Literature.

Great size in a town does not necessarily imply corresponding capacity for housing and feeding an unlimited number of visitors; indeed, at some Annual Meetings in large towns the executive officials have experienced considerable difficulty in finding suitable places of accommodation for the thousand or more members and the ladies accompanying them, while there has been a further difficulty in regard to places at which luncheons, dinners, and teas can be taken in due comfort. At Brighton, however, there is an endless supply of hotels and restaurants, sa well as innumerable boarding houses and apartment dwellings. Presumably, therefore, the chief difficulty of the Lodgings Committee has been to determine which hotels, lodgings, and boarding houses they should recommend to members, and they appear to have grappled with it successfully, since every one we have met seems to be contented with his temporary abode. The Publications Committee must likewise have become painfully conscious of the meaning of the term *embarras de richesses*, since probably no town in Great Britain has been more thoroughly written up than Brighton. It must, indeed, have been rather a worrying matter to settle how much should be reproduced in the form of a guide-book of all the literature regarding Brighton. The outcome of their deliberations is a booklet which is sufficiently small for a member to carry it about comfortably in his pocket, and yet containing all information that he is likely to require, together with hints as to where he can find details regarding the history of Brighton and other like points should he desire to study them. The booklet, which is conveniently provided with a limp cover, is the work of several writers, Drs. Gervis having contributed the chapters on the medical history of Brighton and its attractions as a health resort, and Mr. H. D. Roberts, Director of the Municipal Library, those on the amusements that Brighton offers, and on its qualities as a place of residence, with a special note as to the activities of its municipality. The chapters on Hove in the past and in the present are by Dr. Morgan, the Chairman of the Committee, who also wrote part of the section dealing with the history of the various places of worship in the neighbourhood. A useful section in regard to the country surrounding Brighton is supplied by Dr. Walter Broadbent, while the medical institutions of Brighton and Hove are described by Dr. Burchell, who, as the Secretary of the Committee, has doubtless borne his full share of the burden of producing this excellent guide-book.

The Sections and the Museum.

The scientific sections, sixteen in number, started their work punctually at ten o'clock on Wednesday morning, and did not appear to be suffering from any lack of speakers during the course of the morning, despite the fact that a large number of members were still detained at the Representative Meeting and that others had only just arrived in Brighton and not yet learnt its topography. A brief summary of the work done in each of them on the first day will be found elsewhere and detailed accounts of each day's work will appear in subsequent issues. The museum is appropriately housed in two rooms adjoining that occupied by the Section of Pathology, and, though all the specimens promised had not arrived at the moment of our visit, there was plenty to occupy at least a morning's study. One considerable collection that we noted was an array of specimens originating in the work of the Royal Sussex County Hospital. Of marked interest in themselves and excellently prepared, they were presented by the hospital last year to the Royal College of Surgeons and have been lent by the latter for display and examination on the present occasion. It was observed, too, that Dr. Hobhouse, the Chairman of the Museum Committee, together with his secretaries, Dr. W. Broadbent and Dr. H. M. Galt, had made a successful attempt to illustrate some of the special points which they knew would be brought up in the course of discussion in various sections. A further feature was a large collection of microscope specimens, and a display of some of the more novel instruments now available for obtaining precise data as to the physical condition of living subjects. Probably no one

who has not himself had a share in the task has any conception of the amount of labour involved in getting together, placing in due order, and describing some hundreds of specimens of sufficient merit and value to claim notice from members in the rush of an annual meeting, and at a later date it is hoped to give a more adequate account of what Dr. Hobhouse and his colleagues achieved on the present occasion.

THE REPRESENTATIVE MEETING.

THE Annual Representative Meeting at Brighton occupied more days than on any previous occasion. It began at 10 a.m. on Friday, July 18th, met again on Saturday, July 19th, at 9.30, and at the same hour on Monday, July 21st, and Tuesday, July 22nd. On each of these days the Chairman of the Representative Body used his influence, which is great, to induce the meeting to adhere to its Standing Order to adjourn at 6.30. Some reluctance was shown on Tuesday to accept this advice, but Mr. Verrall stuck to his opinion that, after sitting for so many hours, no meeting can be in a good condition to deal adequately and safely with important questions, often involving many intricate considerations and calling for the exercise of judgement and forbearance in reconciling interests which, at the first blush, seem divergent if not conflicting. When the meeting reassembled at 9 a.m. on Wednesday, July 23rd, it still had a good deal of business to transact, but much of it was of a routine character, and it was possible to take the final adjournment, after reading and confirming the minutes of that day, at 12.30.

On the first day a great deal of time was given to the suggestions of the Council of the Metropolitan Counties Branch for the reform of certain parts of the machinery of the constitution of the Association. It will be remembered that the scheme of reform proposed by the Branch was the subject of a report by the Council. This was brought before the meeting by Mr. Larkin, Chairman of the Organization Committee, and at first some little difficulty was encountered in dealing with the documents, for such in fact they were; this was soon overcome, and each proposal of the Branch was dealt with separately. It was decided not to alter the power of a Division, but to require it to notify its decision to the Branch, and to instruct each Branch to co-ordinate the work of its constituent Divisions. With regard to the proposal to reduce the size of the Representative Body, a kind of stalemate occurred, as may be seen by reference to the full report in the SUPPLEMENT. The result is that no steps in respect of the reduction or otherwise of the Representative Body can be taken until, at earliest, next year. The proposal of the Metropolitan Branch that the Representative Body should be an assembly with full deliberative powers did not emerge unscathed from the fire of criticism it drew, and the resolution adopted is of the nature of a compromise—to the effect that the Representative Body should be an assembly with deliberative powers, but that in speaking and voting a Representative shall be under an obligation to give effect to what he believes would be the opinion of his constituents on the question at issue. The proposal to alter the regulations so as to allow a Special Representative Meeting to be more speedily called proved impracticable, but the meeting approved the suggestion of the Metropolitan Counties Branch that the Representative Body should have power to delegate to the Council specific powers to take action upon its behalf until its next meeting.

Another matter nearly affecting the machinery of the constitution of the Association was raised by the recommendations of the Council with regard to taking a referendum by a postal vote. The opinion that a change in this direction was necessary appeared to be very general. The decision is that the Council shall have power, on any decision of the Representative Body, to take a referendum by a postal vote, and to extend it to the whole profession. It would also have power to limit the vote to one or more parts of the United Kingdom or to a Dominion. It is possible that the new provision in the next resolution adopted represents a new phase in the development of the constitution, and may well prove very valuable. It seems to come to this: that the Representative Body, after coming to a decision, may instruct the Council forthwith to take a postal vote of the Association or the profession, and not to act upon the decision until the result of this postal vote has been ascertained.

The whole of the session on Saturday and the greater part of that on Monday was given to Insurance business. One outcome of it was the acceptance of the Council's proposal that an Insurance Act Committee shall be a Standing Committee of the Association. It will consist, in addition to the *ex officio* members, of 4 members elected by the Council, 12 elected on a territorial basis by the Representative Body, and 4 others—two elected by associations of registered medical women, and one each by the Society of Medical Officers of Health and the Poor Law Medical Officers' Association. The proviso was added that at least one-fifth of the members shall have practical experience of the working of the Insurance Act. As the establishment of a new Standing Committee involves alterations in the by-laws and takes some time, it was resolved at once to elect on the plan indicated a Special Committee for 1913–14. The election resulted as follows, the names being arranged territorially: *England:* Dr. R. M. Beaton (London), Dr. D. E. Finlay (Gloucestershire), Dr. E. R. Fothergill (Brighton), Dr. J. W. Johnson (Bury, Lancashire), Dr. G. K. Smiley (Derby), Mr. D. F. Todd (Sunderland), Mr. E. B. Turner (London). *Wales:* Dr. Crawford Treasure (Cardiff). *Scotland:* Dr. John Adams (Glasgow), Dr. McKenzie Johnston (Edinburgh). *Ireland:* Dr. J. S. Darling (Lurgan), Professor A. H. White (Dublin). This Committee replaces the State Sickness Insurance Committee, which has been at work for the last two years, and it will be observed that several members of the old committee have been elected to the new. This will ensure continuity of action.

The resolution of the Representative Meeting protesting strongly against Mr. G. Locker-Lampson's amendment to the Insurance Act Amendment Bill, designed to hand over the administration of medical benefit to the approved friendly societies, has probably been read by most members in the daily press. It is given in the SUPPLEMENT. On the next day interviews were published in the *Morning Post*, the tenor of which may be gathered from the telegram sent to the press on Wednesday morning by direction of the Representative Meeting:

> Statement in *Morning Post* that there has been a remarkable change of opinion among the Representatives as regards Locker-Lampson amendment brought this morning before Representative Meeting, which reiterated its opinion of Saturday last *nemine contradicente.*

The discussion on trade unionism, which took place on Monday afternoon, excited much interest. It was prefaced by a statement by the Chairman of the Organization Committee to the effect that the Solicitor had advised that it was impossible for the Association to be turned into a trade union—impossible while retaining its identity and its funds and property. Dr. Wallace Henry then moved to instruct the Council to consider the advisability of forming a union of medical practitioners registered under the Trade Union Acts for such members of the Association and other practitioners as might desire to join. The arguments in favour of trade unionism for the medical profession were very fully and clearly stated by Dr. Wallace Henry, who described himself as the first chairman of the first medical trade union. He dwelt especially on the safeguards registration under the Trade Union Acts afforded for the protection of the funds of a union, and said that a medical trade union working in

conjunction with a public medical service, such as that established in Leicestershire, had a considerable material or financial hold on its members. Dr. Henry spoke with much evident conviction, and was answered with equal conviction by Dr. Macdonald, who said that the real power of a trade union depended on the individual's willingness to combine with his fellows and fulfil his promises. A policy upon which all could agree was the first essential, and the second was that each should honourably stand by it. If that spirit could be called into existence a trade union was not needed to enforce adherence to the policy agreed on. An amendment avoiding the reference of the matter to the Council, and asking the meeting at once to affirm that it was desirable to establish a medical trade union was moved and seconded by two London members—Dr. Evan Jones and Dr. Gordon Ward—and strongly opposed by another London member, Dr. Haslip. After a good deal more discussion, in which the arguments for and against the proposal were presented by about an equal number of speakers on both sides, the amendment proposing that the meeting should express its opinion definitely in favour of the formation of a medical union under the Trade Union Acts was put to the vote; a card vote was taken on the application of one of the champions of trade unionism—that is to say, each Representative who voted cast as many votes as there are members in the constituency he represents. The result was that the amendment was rejected by rather more than two to one—11,408 to 5,259. The number of Representatives present was 162. Two did not vote, 107 voted against the amendment and 53 in its favour. This result was declared just before the adjournment on Monday evening. Next morning Dr. Wallace Henry's original proposal to refer the matter to the Council was put to the vote, when 122 Representatives voted, and the motion was rejected by 67 to 55. The proposal is, therefore, so far as the Representative Body is concerned, at an end, at any rate for the present.

The reports proposing to form a Special Defence Fund by voluntary subscriptions of £5 a year, and to give to subscribers special terms for insurance against accident or sickness, for endowment policies, and for medical defence, were admirably explained by Dr. Beaton in a speech which was at once comprehensive and brief. It was objected not only that the scheme appeared calculated to put too heavy a burden on the willing horse, but also that the members of the Association had not had time to consider its advantages and defects. The meeting therefore accepted with a sigh of relief the suggestion of Dr. Macdonald that it should not at this juncture express any opinion; but it went on almost unanimously to approve a proposal to increase the ordinary subscription to the Association, and, after rejecting suggestions to fix it at thirty shillings and at a guinea and a half, finally determined that the subscription should be made two guineas. It voted in this sense with the knowledge that if the change is to take effect at the beginning of 1914 it will be necessary to hold a Special Representative Meeting during the autumn of this year.

The Representative Meeting before separating unanimously adopted a resolution expressing its sympathy with the recent appeal made in the press by Sir Thomas Barlow and his co-signatories in favour of a more candid recognition by the public of the dangers of venereal disease.

After the conclusion of the business of the Annual Representative Meeting, in a brief interval while the final minutes were being prepared, Dr. Courtenay Lord, the Representative of Rochester, Chatham, and Gillingham, made an informal appeal on behalf of the widow and children of Dr. Milward, of Cardiff, who had on several occasions acted as Representative of that Division, and had also served on one of the special committees on the Insurance Act. Dr. Milward took a very keen interest in the fight of the profession against the unreasonable proposals of the Act, and it was after attending a meeting of a committee in London that he was seized with his fatal illness. Much sympathy was expressed by the Representatives present, and Dr. Lord's appeal to them to obtain subscriptions in their own localities seemed to meet with general approval. As an earnest of future efforts in this direction the Representatives there and then themselves contributed various sums, amounting altogether to over £50. Further contributions may be sent to Mr. W. Sheen, M.S., F.R.C.S., 2, St. Andrew's Crescent, Cardiff, Honorary Treasurer; or to Dr. A. L. Thornley, 18, Windsor Place, Cardiff, Honorary Secretary. It may be added that an effort is being made to procure the election of Dr. Milward's son to Epsom College, and that the committee of the Milward Fund hope that members of the profession who subscribe to the college will bear the case in mind when allotting their votes.

It was originally intended that the Annual Meeting in Aberdeen in 1914 should begin on July 21st and the Annual Representative Meeting on the previous Friday, July 17th. It appears that it will be necessary to alter these dates, owing to the fact that the annual holiday in Aberdeen occurs in the week beginning July 19th. It will in consequence probably be necessary to hold the Annual Meeting in the week beginning July 12th and the Representative Meeting on July 10th. As the Representative Body has expressed the desire that the reports of the Council shall be issued at a date leaving more time for their consideration by the Divisions, this change will require the Insurance Act Committee, the Standing Committees, and the Council to take time by the forelock and get forward with their business early in the spring of 1914. The point is worthy also of the notice of secretaries of Divisions and Branches. We understand that it is the intention of the local Branches and Divisions to invite the Association to hold its Annual Meeting in Newcastle-on-Tyne in 1916 and in Portsmouth in the following year. The invitation to hold the Annual Meeting in Cambridge in 1915 has already been accepted, subject to the formal approval of the Association.

Up to the time of going to press over 900 members have registered, being accompanied by 400 ladies. A good many members are visiting the Sections daily from London without formally registering.

A ROYAL COMMISSION ON VENEREAL DISEASE.

The *Lancet* of June 28th contained a Plea for a Royal Commission on Venereal Disease by Sir Malcolm Morris, in which the urgent need for such an inquiry was insisted upon. In the *Morning Post* of July 22nd there appeared what may be called a manifesto to the same effect, to which was attached an imposing array of names of distinguished members of the profession. Among the signatories are Sir Thomas Barlow, Sir William Osler, Sir Clifford Allbutt, Sir William S. Church, Sir Henry Morris, Sir John Tweedy, Sir James Barr, Sir Robert H. Woods, Sir John Bland-Sutton, Sir W. Watson Cheyne, Sir Francis Champneys, Sir John Rose Bradford, Sir Alfred Pearce Gould, Sir Victor Horsley, Sir Malcolm Morris, Sir George Savage, Sir Anderson Critchett, Dr. Herringham, Dr. Mott, Mr. D'Arcy Power, Mrs. Scharlieb, and Mr. Charters J. Symonds. There could scarcely be a list of persons more eminent in their several ways or more representative of the medical profession. It is pointed out in the manifesto that while the State has taken effective action in a

number of directions for the control of disease, no organized effort has been made for the prevention of venereal disease. As to this disease, which undermines the vigour of the people, saps the strength of the army and navy, causes incalculable suffering and unhappiness, and often blights the lives of the children who are the hope of the future of our race, there has hitherto been a conspiracy of silence. The subject is not a pleasant one, but the evil is so serious that it is time it should be faced by the public. When the matter was discussed last year at the Royal Society of Medicine it was stated that in London alone 40,000, and in the whole United Kingdom 130,000, new cases of syphilis occur every year. Recent research has thrown new light on the etiology of the disease, and vastly improved means of treatment are now available. The time, therefore, is opportune for an organized effort on a comprehensive scale to reduce the incidence of these diseases. In order that public opinion may be aroused to the gravity of the matter, a full and authoritative investigation is necessary, and the eminent members of the profession who have appended their names to the letter to which reference has been made call for the appointment of a Royal Commission, with a substantial majority of medical men among its members, to inquire into the facts and recommend what steps, prophylactic and therapeutic, should be taken in regard to venereal disease. As will be seen elsewhere, the Representative Meeting before concluding its labours unanimously adopted a resolution expressing its sympathy with the appeal, and the demand thus solemnly made by the whole of the medical profession for a public inquiry into this most important matter can scarcely be resisted. Although the reports of Royal Commissions are too often treated like the utterances of the chorus of a Greek play, there seems to be no better way of securing a thorough investigation. But, to be of any use, the report must not be consigned to the dusty tomb of a pigeon-hole, but must be followed by immediate action. Already, as was pointed out in the JOURNAL of May 10th, 1913, p. 1023, Australia has entered on a campaign against venereal disease which gives promise of satisfactory results. America, too, is awakening to the importance of such a movement. The Chicago Vice Report, issued a few years ago, has been followed by an investigation on the same lines in New York. As the result of an inquiry, necessarily imperfect owing to the want of proper response on the part of the profession, Dr. Biggs thinks it probable that the number of new cases of venereal disease which occurred in New York last year amounted to 200,000. These figures, he adds, give a very inadequate notion of the terrible gravity of the problem. It would be foolish to seek to comfort ourselves with the thought that we are less afflicted than New York. Our case, as has been shown, is bad enough to call urgently for remedy. In these days of easy rapid communication between all parts of the civilized world, syphilis may truly be regarded as an international scourge. We hope it is not Utopian to dream of a time when the nations of the world will join in a war against venereal disease.

THE BRITISH ASSOCIATION.

THE *Times* in its issue of July 21st gives its usual forecast of the proceedings of the British Association for the Advancement of Science. The meeting, which is to be held at Birmingham under the presidency of Sir Oliver Lodge, will open on September 10th. It is expected that the attendance will number over 3,000. The work of the meeting will be distributed among twelve sections. Among these several are directly or indirectly of interest to members of the medical profession. The President of the Section of Physiology is Dr. F. Gowland Hopkins, F.R.S. During the meeting the section will receive the report of its committee on anaesthetics, in connexion with which Sir Frederic Hewitt will speak on the State regulation of anaesthetics. There will be a number of joint meetings with other sections. The physiology of reproduction, with special reference to the factors affecting fertility and sterility in live stock, will be discussed with the Agricultural Section. Professor Benjamin Moore will open a discussion in a joint meeting of the Section of Physiology with those of Zoology and Botany on the synthesis of organic matter by inorganic colloids in the presence of sunlight considered in relation to the origin of life. It is hoped to arrange a joint meeting of the Physiological and Chemical Sections for a discussion on fermentation. In the Section of Zoology, the president of which is Dr. H. F. Gadow, a lecture will be delivered by Professor E. A. Minchen on some aspects of the sleeping sickness problem. During the week a visit will be paid to the Burbage Experimental Station, by invitation of Major Hurst, to view the results of experiments on inheritance. The Subsection of Psychology will hold a joint meeting with the Section of Education. In individual papers Mr. W. McDougall will discuss the theory of laughter; Miss M. Smith and Mr. McDougall will communicate a paper on memory and habit; Dr. J. L. McIntyre will discuss the effects of practice on the memory of school children; Mr. Stanley Wyatt will report the results of some investigations into the reliability of children's testimony; and Mr. T. H. Pear will report on recent experiments regarding the psychology of testimony. In the Section of Anthropology Sir Richard Temple, in his presidential address, will deal with the nature and scope of the science, and the methods suitable for its successful study. He will refer to the steps taken or suggested by the Royal Anthropological Institute and the Universities of Cambridge and Oxford towards the supply of the knowledge of mankind necessary for sound imperial administration, which, in his opinion, is the practical result of the studies of anthropologists.

INTERNATIONAL ANTIALCOHOL CONGRESS.

THE International Congress against Alcohol will be held at Milan in September (22nd to 28th). On the first day an address will be delivered on the pathology of alcohol, and reports by a physician and by a school teacher on the moral decadence caused by alcohol will be presented. On the second day the discussions will be as follows: (1) The place and importance of the alcohol industry in national economy—(*a*) beer, (*b*) spirits, (*c*) wine (choice and ordinary). (2) The activity of those interested financially in alcohol against the antialcohol movement. (3) The evil effects of alcoholism from the economic point of view—(*a*) in the State, (*b*) in the commune, (*c*) in the family. On the third day the following will be the programme: The use of grapes and fruits for the production of beverages without alcohol—(*a*) report of a medical hygienist intended to elucidate the food value of unfermented juices; (*b*) report of a chemist intended to demonstrate the possibility of making and preserving non-fermented juices; (*c*) report of an economist intended to demonstrate the commercial possibilities and prospects of non-fermented juices. The following are the programmes for the other days:—Fourth day: (1) Masters and workmen in the struggle against alcohol. (2) How to substitute for the tavern houses and gardens for popular resort where only non-alcoholic refreshments will be supplied. (3) Antialcohol expositions. Fifth day: Cure of drinkers—(*a*) medical report; (*b*) homes, societies, and so forth. Sixth day: (1) Alcohol and the school (antialcohol education of the young), education of masters, etc. (2) Alcoholism in Italy. A final address without discussion, entitled "An Appeal to International Solidarity in the Struggle against Alcohol," will be delivered. The committee reserves to itself the right to organize a small exhibition intended to make known the best machines and the best systems for

the production of wines without alcohol, and to invite all owners of vineyards to take part in the discussion. During the week of the congress Dr. Popovic of Belgrade, who took part in the siege of Adrianople, will give an address on alcohol and war.

PROTECTIVE INOCULATION AGAINST CHOLERA.

HAFFKINE has prepared and published a memoir on protective inoculation against cholera[1] in connexion with certain official correspondence regarding vaccination against this disease and preparation and study in India of a devitalized form of anticholera vaccine. The memoir, which includes certain references to the support which the author's personal views have received so far from the results of other workers, is divided into three parts. Part I deals with the preparation of an anticholera vaccine; Part II with immunization of man against cholera; and Part III with the anticholera vaccine after its devitalization. Haffkine believes that just as it was important to obtain first a positive result on the question of cholera immunization in general, and to use in investigating that matter the most reliable vaccine preparation, so it is important to avoid at the beginning the possibility of failure in the study of the vaccine in a devitalized form. For this reason he considers it better at present to use the devitalized vaccine in its entirety rather than extracts or other derivations of it. The facilities for the manufacture in the case of the entire preparation are also of considerable importance. In devitalizing Vaccine II it is essential to employ only the most delicate physical and chemical processes. The two forms of the vaccine in devitalized condition which commend themselves to Haffkine are (1) that prepared by prolonged cultivation in a fluid medium and devitalized by heat and carbolic acid; (2) that prepared by cultivation on a solid medium and devitalized, as soon as developed, by a solution of the same antiseptic compound. The study of the protection derived from the employment, separately, of these two forms of vaccines in various doses should afford information as to the direction in which the plan will require to be modified for further study.

IT is announced that through the generosity of Sir Harry Waechter, Bart., in granting the sum of £300 for five years, University College Hospital will open a department of vaccino-therapy.

WE are requested to state that, in consequence of the International Congress of Medicine, the usual time for closing the house of the Royal Society of Medicine for cleaning and stocktaking will have to be altered, and that instead of closing from August 1st to 31st, *it will be closed from August 14th to September 13th, both days inclusive.*

[1] *Protective Inoculation against Cholera.* By W. M. Haffkine, Bacteriologist with the Government of India. Calcutta: Thacker, Spink, and Co. London: Thacker and Co. 1913. (Sup. roy. 8vo, pp. 98. R.3.)

THE late Dr. Alfred Lewis Galabin, Consulting Obstetrical Physician of Guy's Hospital, left estate valued at £59,363.

A SERIES of lectures on balneology and balneo-therapeutics, arranged under the auspices of the International Committee for Post-Graduate Medical Teaching, will be given at Carlsbad from September 28th to October 4th, 1913. The list of lecturers includes, among others: Professor Albu (Berlin), Professor von Jaksch (Prague), Professor Kionka (Jena), Professor R. Kutner (Berlin), Professor Luthje (Kiel), Professor Plehn (Berlin), Professor Riehl (Vienna), Professor Schautau (Vienna), and Professor Strauss (Berlin). Admission to the lectures is free to every member of the medical profession on payment of a registration fee of 10 kr. for the entire series. For the programme of lectures and the cards of admission application should be made to the Kuramt of Carlsbad, to which all communications are to be addressed.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE nature and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 23rd, 1913.

SECTION OF BACTERIOLOGY AND PATHOLOGY.

AFTER a few brief introductory remarks by the President (Dr. Eyre), Mr. Rupert Farrant gave a short account of the published work on experimental hyperthyroidism. He expressed the opinion that the contradictory results recorded might be due to the methods of observation of the varying preparations used, and to the different methods of administering them. He had given thyroid containing 0.3289 per cent. of iodine to 11 cats, 19 rabbits, 15 guinea-pigs, and 12 dormice, and had made observations on the symptoms and pathological changes produced. Mr. Farrant concluded that thyroid feeding was toxic to these animals, but that their resistance varied both as to the species and to the individual of that species. A complete picture of exophthalmic goitre could not be produced in these animals, but a modification could be produced that resembled the disease in certain features. These were fur changes, bodily weakness, diarrhoea, tachycardia, and occasional glycosuria, combined with a disappearance of fat, muscular wasting, degeneration of the heart, liver, and kidney, enlargement of the islets of Langerhans, and haemorrhagic changes in the intestine. He deduced that the thyroid hyperplasia of exophthalmic goitre was associated with excess of secretion, and that this was the cause of these symptoms and morbid changes. He suggested in regard to those symptoms that could not be reproduced, no deduction could be made as to their being or not being caused by thyroid excess, owing to the anatomical and other differences between animals and man. The absence of the morbid changes in the ductless glands and lymphoid system precluded their production by thyroid excess. The paper was discussed by Dr. Crofton and Dr. Eyre. Dr. Crofton then read a paper, written in conjunction with Drs. McWeeney and Moore, on paratyphoid infection. This was illustrated by two cases of great severity, both of which were treated with vaccines prepared from the faeces and used with marked success. He laid stress on the observation that paratyphoid fever was by no means the trivial complaint it had hitherto been supposed to be. His detailed description of the cultural activities of his isolated bacilli brought forth the complaint from the President that fermentation reactions were carried out in too haphazard a manner to please the observer of a logical temper of mind; he would, indeed, have the media all classified according to chemical constitution. The uses of vaccines in cases of infantile diarrhoea were discussed Dr. Braxton Hicks and others. A short interval was unexpectedly filled up by a striking and most interesting demonstration on amoebae by Dr. v. Wasielewsky of Heidelburg. His stained specimens and his pictures of experimental dysentery on cats were indeed beautiful. These we hope to describe in detail later. Dr. Galt (Brighton) read a paper on the value of blood counts in diagnosis, and summarized the findings in various blood diseases; at the same time he accentuated the importance and, in fact, the necessity of making a histological examination of the blood on every occasion. This paper aroused much discussion, in which Drs. Bernstein, Hicks, Crofton, Leon, and Eyre took part, and the general impression was that, as a symptom of many diseased states, haematological changes were indeed of value, but often only as a preliminary to the more recent and serological investigations, the value of which is even greater. Numerous cases were cited by different speakers, and after Dr. Galt's reply the Section adjourned.

SECTION OF CLIMATOLOGY AND BALNEOLOGY.

THE proceedings were opened by the President, Dr. F. J. Paley (Brighton), who, after welcoming those present, mentioned that this was the first occasion on which there

had been a Section devoted to climatology and balneology at these annual meetings, and that the credit for this innovation was due to the local secretary, Dr. Copeman. He then called upon Dr. Tyson (Folkestone) to open the discussion on sea-bathing. Dr. Tyson, after a few introductory remarks, dealt with his subject under a series of headings. Sea water, he observed, did not evaporate so quickly as fresh water, and doubtless soft particles remained lodged in the skin even after the customary drying with a towel. These particles kept up a warm glow and lessened the liability to surface chills. The temperature of the sea was affected by its salts, which, by aiding the penetration of solar rays, permitted large bodies of water to be raised to high temperatures. The immediate action of salt water did not differ from that of fresh water. In an ordinary sea bath there was first contraction of the surface vessels with abstraction of heat, followed by a determination of blood to deeper organs, and finally a reaction in which a flushing of the vessels of the skin gave rise to an agreeable sense of warmth and well-being. Sea water might well be used for other purposes than bathing, as for instance for douches and sprays for the throat and nose. It was generally laid down that the season for sea-bathing lasted from June 1st to October 1st, but June was too early for the majority of people. The best hours for bathing were between breakfast and lunch, while the time of immersion should not as a rule exceed fifteen minutes. Open beach bathing was fit only for the robust, and tents did not afford very effective protection. Sufferers from asthma, advanced heart disease, rheumatism, bronchitis, Bright's disease, acute gout or other acute disease should be forbidden to indulge in open sea-bathing. Dr. Mahomed (Bournemouth) remarked that many all-round athletes showed little inclination for sea-bathing, while conversely some excellent swimmers did not care much for other forms of athletics. Dr. Johns (Bournemouth) narrated his experience of the striking benefit accruing to consumptives from bathing followed by a glass of hot milk. Dr. Odell (Torquay) spoke of the use of a fresh water douche after immersion in sea water, and deprecated this procedure. Dr. Kennedy (Bath) was strongly of opinion that the sea-bath should be of very short duration—from one to five minutes being as a rule sufficient. He held that while even very old people might bathe with advantage, the practice was seldom beneficial in infancy. Dr. Whittington (Brighton) called attention to the risks attending bathing shortly after an acute attack of influenza. Dr. Clippingdale (London) contributed a very interesting historical account of sea-bathing from ancient times to the present day. Dr. Tyson, replying, expressed his concurrence with most of the opinions expressed during the discussion, and closed his remarks by a reference to paddling which he said afforded the greatest pleasure to children, but he issued a caution against permitting them to wade in very cold water.

SECTION OF DERMATOLOGY.

THE President, Dr. J. H. Sequeira, of the London Hospital, opened the meeting of the Section with a few introductory remarks, in the course of which he referred in sympathetic terms to the loss, to dermatology especially, incurred by the recent death of Sir Jonathan Hutchinson, At the last meeting of the British Medical Association at Brighton, in 1886, Professor Liebreich had been present, and had read a paper introducing lanoline to the profession in England, and Dr. Mackey communicated the uses of resorcin in cutaneous diseases. The President then reviewed the progress of dermatology from 1912–13, and referred to the trend of modern investigation in the association of dermatology with other specialities, as, for example, bacteriology, emphasizing the importance of the discoveries brought about by the more general use of the microscope—for example, in fungous affections of the skin, in general paralysis of the insane, and tabes (Noguchi's discovery of the *Spirochaeta pallida* in the nervous tissues of these patients). He concluded with a eulogistic reference to the movement instituted in the columns of the *Morning Post* of July 22nd for a public inquiry on the ravages of the venereal diseases in England and the best means of combating them. Dr. H. G. Adamson of St. Bartholomew's Hospital then opened a discussion on the fungous infections of the glabrous skin in a paper copiously illustrated by lantern slide photographs of cases, and an exhibition of the actual cultures of nearly all the fungi concerned. He drew particular attention to the fact that animal ringworms—as, for example, from cat, horse, and cattle infections—were prone to cause highly inflammatory lesions (usually only *one*), which, as a rule, conferred immunity on the patient from subsequent attacks. The subject of ringworm of the toes and fingers, and tinea of the groins was especially emphasized and the therapy outlined. The ointment recommended by Dr. Whitfield—15 grains each of benzoic and salicylic acids to the ounce of vaseline—was strongly recommended for these cases, and had been found very valuable by the speaker. He spoke for some time on sporotrichosis, and mentioned the possibility of joint affections and fever in these cases, thus emphasizing the occasional occurrence of a generalized infection—the main clinical difference between sporotrichosis and the other fungous affections of the skin. Sir Malcolm Morris congratulated Dr. Adamson on his paper, and thanked Dr. Sequeira for his kind references to the speaker's attempt to bring the question of venereal diseases from behind the obscurity of "the conspiracy of silence" into the light of publicity. The contemporaneous discovery by Sabouraud and Whitfield of the toe and groin ringworm combination was of extreme importance, for many cases of this condition had gone on uninfluenced by all treatments for years. In his experience prolonged antiseptic treatment with carbolic acid, soft soap, and acetic acid was the best, and patients ought to lie up for the time. Dr. Alfred Bolam (Newcastle) could not quite accept Dr. Adamson's distinction as to the comparative reaction of the human skin to human and animal ringworm infections. He thought that both sources could produce violent reactions. He raised the question of a plurality of fungi in tinea cruris, and agreed with Sir Malcolm Morris that chrysarobin was still the main stand-by in the therapy of most fungous affections. Dr. George Pernet (West London Hospital) said that "rings" could be caused by microsporon infection as well as by the large-spored varieties. He emphasized the possibility of reinfections from boots and socks in toe ringworms, and considered that sulphur and carbolic acid ointment was on the whole the best therapeutic measure for these cases. Professor Wild (Manchester) agreed that tinea cruris was decreasing, and wished to know if other observers had also found a difficulty in demonstrating the fungus in scales by the potash method. Other speakers in the discussion were Dr. Barendt (Liverpool), Dr. A. W. Williams (Brighton), Dr. Alfred Eddowes (London), Dr. Dore (Westminster Hospital), Dr. Gardner (Edinburgh) and the President, who mentioned a very interesting case recently published by him in which the ringworm fungus had produced not only rings and scales, but granulomatous tumours. Sabouraud had seen the case, and identified the fungus under the name of *Trichophyton plicitale endothrix crateriforme*. Dr. Pernet then read a short paper on veronal and its new variety—luminal rashes, in which he emphasized the toxicity of the phenyl group. After a few remarks by Professor Wild and Dr. Eddowes, the meeting was adjourned to the following day.

SECTION OF DISEASES OF CHILDREN.

THE President of the Section, after a few introductory words, called on Dr. Poynton (London) to open the discussion on "The Prevention of Heart Disease in the Young." Such heart disease he connected mainly with infective processes, of which the chief was the rheumatic; pure cardiac overstrain he believed to be rare in the young. He quoted a case of auricular extrasystoles that had existed for eighteen months in a child of two years old; the child had fits, and Dr. Poynton was inclined to connect the fits with the cardiac lesion. The prevention of the cardiac lesions due to the microbe of rheumatism was made much more difficult by the fact that the rheumatic manifestations might be confined to a sore throat, so that the rheumatic nature of the whole process might escape notice until irremediable damage might have been inflicted on the heart. The treatment of cardiac disease in children with salicylates, and especially with large doses of them, he regarded as disappointing; much of the vaccine treatment of rheumatic heart disease he regarded with horror.

Removal of the tonsils was by no means a certain preventive of rheumatic reinfection. Dr. Poynton quoted a number of cases illustrating the difficulty of deciding whether the results of vaccine treatment were good or bad. In cardiac oedema he found good results from giving theocin sodium acetate; camphor appeared to be less effective as a cardiac stimulant than strychnine. Dr. Carey Coombs (Bristol) dwelt on the difficulties of diagnosing organic cardiac disease and distinguishing organic from accidental (or functional) murmurs. He believed that organic disease of the heart rarely made its action irregular; the rheumatic infection reached the heart through the arteries, and came from the tonsils and naso-pharynx. He had little hope that any specific means of treatment of cardiac rheumatism would be found. Dr. Chaffey (Hove) then gave an analysis of 37 cases of heart disease in children, with special reference to a family history of phthisis, as well as of rheumatism. He expressed the opinion that a tendency to lymphatic obstruction was marked in both rheumatic and phthisical persons. Dr. Mary Murdoch (Hull) laid stress on the importance of pericarditis in rheumatic children, to be combated by the application of leeches. She commented on the variety of rheumatic aortic disease in children. Dr. R. Miller (London) commented on the fact that rheumatism and tuberculosis were rarely active simultaneously in any patient. He endeavoured to form a basis for the explanation of the curative action of salicylate on the heart in acute rheumatic infection; severe heart disease undoubtedly predisposed to vomiting when large doses of salicylate were being given. He ascribed a specific bactericidal action to the drug in rheumatic cases. Dr. Branson (London) discussed the portals of entry of the rheumatic infection and the connexion between chorea, rheumatism, and enlarged tonsils with adenoidal enlargements; this connexion he believed to be close. He agreed with Dr. Poynton that enucleation of the tonsils was a far better operation than mere tonsillotomy. Dr. Naish (Sheffield) spoke of the choice of sites for convalescent homes to which rheumatic children should be sent. Dr. Chaffey (Hove) advocated salicylates in moderate doses, combined with strophanthus and alkalis, in treating rheumatic heart disease. The President spoke of the house contagion and contact contagion that should be considered carefully when the prophylaxis of rheumatism was being discussed. The poor, he considered, became rheumatic in greater numbers than the rich: the rich were no less liable to enlargements of the tonsils and adenoids than the poor. Tonsillotomy he thought a most disappointing operation, tonsillectomy a sound and far preferable procedure, though more serious. Irregular action of the heart was usually negligible when it occurred in children, he believed; rheumatic pericarditis was very rarely associated with pericardial effusion. Dr. Carey Coombs, in replying, drew attention to the close connexion that exists between poverty on the one hand and both rheumatism and tuberculosis on the other. He also remarked on the importance of the intracellular changes seen in cases of rheumatic carditis. Dr. F. J. Poynton (London), in replying, corroborated the President's remarks as to house infection, and commented on a number of the points raised by other speakers. Dr. J. H. Nicoll (Glasgow) then read his paper on the surgery of childhood, a plea for the more extensive use of the out-patient department for operations on children, based on over 20,000 cases of his own. Children of less than the portable age—5 or 6—should have almost all their operations performed in the out-patient department. A hostel for suckling and nursing mothers should be found in every children's hospital; other details of the methods advised were given. The proceedings of the Section were attended by about forty members of the Association.

SECTION OF ELECTRO-THERAPEUTICS.

IN opening the proceedings, Dr. W. Deane Butcher, the President of the Section, said that electro-therapeutists occupied the position of the advance guard of medicine at the spot where medicine touched upon physics. For some years past they had tried to emphasize that position by asking a distinguished physicist to deliver an introductory address, and on the present occasion they had found him in the person of Professor C. G. Barkla, of King's College, London. Professor Barkla then addressed the Section on the subject of secondary *x*-ray radiations in medicine. He described very lucidly each of the three distinct types of secondary radiation excited by the *x* rays—namely, the scattered *x* rays, the fluorescent *x* rays, and the corpuscular or electronic radiations, to which last most, if not all, of the therapeutic and other effects of secondary radiation were to be set down. He made a number of suggestions having a bearing on therapeutics, one of them relating to the newly discovered fact that *x* rays might be partially reflected from the cleavage planes of crystals. By using suitably curved crystalline plates it was possible to bring these reflected rays to a focus, and thus enormously to intensify the action over a limited region. A portion of an organ might in this way be subjected to a much more drastic treatment than would be safe for the neighbouring regions. A paper which gave rise to considerable discussion was then read by Dr. A. F. Hertz, who made certain suggestions for standardizing the *x*-ray examinations of the alimentary canal. He advocated a barium or bismuth meal as nearly uniform as possible, and laid down certain findings to be deduced from the various positions, degrees of stasis, etc., of stomach and colon. Several speakers who followed gave their own experiences with opaque salts, Mr. Hall Edwards urging that the use of bismuth carbonate was most scientific, while Dr. Hertz himself expressed a preference for barium sulphate. Ultimately, on the motion of Dr. C. F. Bailey, an expression of opinion was formulated, which proved to be the unanimous feeling of the Section, "that one definite type of standard meal for radiographic examination should be adopted by general consent," and that the Electro-Therapeutic Section of the Royal Society of Medicine should be asked "to appoint a Committee to obtain evidence with the view of suggesting this official standard meal." Dr. A. C. Jordan read a note on cardiospasm, and gave details of some cases. Dealing with the question as to whether cardiospasm was a disease *per se* or merely a symptom, he said that experience of spasm in other parts of the alimentary tract, notably the stomach, led one to suspect the latter. In the course of the discussion on this paper, Dr. W. Hill said that he had never seen a case of primary cardiospasm, nor had he come across any trustworthy evidence for such a condition. Dr. Reginald Morton dealt in a paper with the present position of the *x*-ray diagnosis of pulmonary tuberculosis. He said that there was a definite group of cases in which the clinical signs and symptoms were so slight as to make any positive diagnosis out of the question, and yet in a large proportion of these an *x*-ray examination gave a positive, and in others at least a tentative diagnosis of tuberculosis. He urged its inclusion in the routine examination of all suspected cases. In a final paper, Dr. Ironside Bruce described the technique of collargol injections in diseases of the urinary system, and explained Mr. Thomson Walker's method of catheterization.

SECTION OF GYNAECOLOGY AND OBSTETRICS.

THE President (Dr. Robert Sanderson, Hove), after briefly welcoming the members and visitors, called on Mrs. Scharlieb (London) to introduce a discussion on the best methods of dealing with malpositions of the uterus, especially with reference to retrodisplacements and prolapse. Rapidly passing over cases requiring no treatment and those amenable to mechanical and medical means, the speaker discussed in a more particular way her operative experience of the past eighteen years. She was in the habit of performing either a suspension operation (round ligaments drawn through the fascia) or a hysteropexy (fixation of the anterior wall of the uterus in its lower part to the abdominal peritoneum and fascia), and combined with these local treatment of the cervix or endometrium, anterior colporrhaphy, and perineal repair where necessary. She insisted that anterior colporrhaphy should be thorough, that the denudation should be triangular in shape, with its base to the cervix, and that the bladder should be completely separated. In only 20 per cent. of the 93 cases where she had performed an abdominal operation for displacement was the abdomen opened primarily for that purpose. All the cases had made good recoveries, and dystocia had never followed. Dr. Hans Schlimpert (Freiburg) described the operations for displacement as performed in Krönig's clinic. He

emphasized the essentially hernial nature of prolapse, and recommended for severe cases that access to the levatores ani should be obtained by a preliminary division of the transversus perinei profundus muscles. The prognosis in any case and the choice of operation should be decided rather by the deficiency of the levatores as examined per rectum than by the degree of prolapse. Shortening of the round ligaments or vaginal fixation were done in addition where necessary. Professor Corby (Cork) laid stress on the relaxation and lengthening of the posterior vaginal wall in retrodeviation. To correct the uterus and maintain it in the corrected position he advised a shortening of the posterior wall by a transverse posterior colporrhaphy combined with perineorrhaphy. Dr. A. E. Giles (London) opened the discussion on the preceding papers by expressing himself in general agreement with Mrs. Scharlieb. He considered that hysteropexy was a proper procedure to suggest to a patient as an alternative to a pessary—even while admitting that occasionally a pessary of itself sufficed to bring about a cure. Mr. Christopher Martin (Birmingham) laid stress on the supporting functions of the pelvic fascia, and considered that Krönig's operation produced its good result by the approximation of the fascial sheaths. For non-operative treatment of prolapse he recommended a Simpson's shelf pessary. He was not in favour of any round ligament operation, and in performing hysteropexy did not include the abdominal peritoneum. Mr. Cuthbert Lockyer (London) described and illustrated his own operation for descent complicated with prolapse of the vaginal wall and bladder. In these cases he did not trouble with the position of the body of the uterus. For simple retrodisplacement he preferred, in unmarried women, to suspend the uterus rather than advise a pessary, and for complete procidentia after the menopause he favoured Le Fort's operation. Miss Ivens (Liverpool) advocated Mayo's modification of Gilliam's vaginal operation, and Dr. W. Ritchie preferred section of the round ligaments to other methods of shortening. Dr. R. Dickinson (New York) also spoke, and Mrs. Scharlieb, Dr. Schlimpert and Professor Corby replied.

SECTION OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

DR. A. J. HUTCHISON opened the work of this Section by thanking the members for the honour paid to him by his election as its President, and extended to them a cordial welcome. He then read a telegram from Professor Onodi of Budapest, expressing his regret at inability to attend, and after this called on Dr. Milligan to open the discussion on the technique and after-treatment of the radical mastoid operation. In his paper Dr. Milligan urged the great importance of deciding whether any infection of the labyrinth were present, either active or latent, and briefly indicated the distinguishing symptoms. When labyrinthitis was present, it was important to clear it out, and not to be satisfied with the simple radical operation, because of the dangers of meningitis if the infection be left in this neighbourhood. He mentioned also the treatment of septic conditions around the area of operation some days before the actual radical operation, such as the treatment of adenoids, septic teeth, and pus. He believed in removing no more bone than possible, but always desired to have a shelving floor leading up to the deeper part of the wound. He disliked too much interference with the inner tympanic wall in the neighbourhood of the round and oval windows, and closed up the pharyngeal end of the Eustachian tube by the use of the cautery through Yankauer's speculum. In showing a tabulated series of cases operated upon by him, he concluded that treatment by blood clot in small cases gave the best results as regards time of after-treatment, but the main difference lay in the comfort afforded to the patient. Dr. Dundas Grant considered that a constant supervision of the patient by the surgeon was essential to success. That was probably the reason why new remedies were often efficacious, for when a treatment became established it was often left to less competent hands. Adhesions occurring in the neighbourhood of the aditus were often the cause of lengthy after-treatment. There seemed to be considerable difference of opinion amongst subsequent speakers as to the means to be adopted in the treatment of the Eustachian tube. Sir R. Wood rather feared the use of hydrogen peroxide. Dr. Jobson Horne favoured simplicity of operation and treatment. The other speakers included Dr. Watson-Williams, who considered conservative treatment of the inner tympanic wall of great importance; Dr. Wyllie, who laid stress upon the personal after-treatment of the patient; Dr. Syme-Mackay, who discussed the importance of treatment of the tympanic end of the Eustachian tube; and Dr. Sydenham, who referred to a method of after-treatment of the cavity by inflation with a thin rubber bag. Dr. Davis spoke of two cases of post-operative meningitis in their relationship to probable previous labyrinthine disease. The President summed up the remarks of the previous speakers, and explained the method he adopted of swabbing out the cavity with iodine, the insertion of a drainage tube, and subsequent treatment by irrigation with hydrogen peroxide.

SECTION OF MEDICAL SOCIOLOGY.

A LARGE number of laity—both ladies and gentlemen—were present at the opening meeting of this Section on Wednesday, July 23rd, when the subject for discussion was eugenics. The President of the Section (Dr. R. J. Ryle of Brighton), in some introductory remarks, commented on the increased relation of medicine with social questions, and, in regard to eugenics, remarked that this subject under various names had occupied the attention of mankind from the time of the ancients. Mr. Edgar Schuster, the first Galton Research Scholar, read a short introductory paper in which means were discussed of organizing control over the racial qualities of future generations. Dr. Harry Campbell principally directed attention to the desirability of promoting the principles of eugenics by individual rather than general appeals. Dr. Stewart Mackintosh discussed the migratory factor in eugenics, pointing to the influence upon the development of the race of the change from rural to urban conditions on the part of a large proportion of the population. In the subsequent discussion Mr. E. J. Lidbetter gave experiences in the administration of the Poor Law in East London, and deplored the tendency of modern social legislation to assist the survival of the feeble-minded and unfit. Sir James Barr addressed himself with his accustomed vigour to the need of raising a more manly breed, not only as regards physique, but also as regards moral and intellectual capacity. Miss A. H. P. Kirby, Secretary of the National Association for the Feeble-minded, spoke of the absence of facilities for the study of feeble-mindedness by medical students, a point which seemed of great importance in view of legislation dealing with mental deficiency now before Parliament. Dr. Dunlop frankly advocated the principles of Malthus, and Dr. Charles V. Drysdale followed in the same strain. Prince Kropotkin urged the impossibility of eliminating the unfit in view of the large proportion that class bore to the rest of the population. Dr. C. W. Saleeby discussed principally the influence of nurture on future parenthood; Mgr. Canon Johnston put forward the clerical view; Dr. Wynne, medical officer of health for Wigan, sought to defend preventive medicine from condemnation (by inference) by the eugenists; and Dr. Ernest Wood, inspector of the insane in the State of Victoria, gave some interesting figures relative to the causes of insanity and feeble-mindedness.

SECTION OF MEDICINE.

THE President (Dr. E. Hobhouse), having declared the meeting open, Dr. A. E. Garrod, F.R.S., invited discussion on non-diabetic glycosuria. It was obviously impossible, he said, to draw any sharp line of demarcation between diabetic and non-diabetic glycosuria. Diabetes connected several distinct ideas: First, persistence of glycosuria throughout the remainder of the lifetime of the patient; secondly, fatality, for a diagnosis of diabetes was usually held to imply a fatal result sooner or later; thirdly, the name called to mind a group of associated symptoms, polyuria, thirst, wasting, and local lesions, such as boils, cataract, and gangrene; lastly, a profound disturbance of carbohydrate metabolism. Not one of these conceptions provided a satisfactory basis for a definition. They had no right to assume that recovery could not occur. A diabetic patient might exhibit over a long period none of the associated symptoms which had

been mentioned. Nor did the diabetes which had its origin in definite visceral lesions differ in any essential respect from that for which no explanation was forthcoming. Lastly, if they took as their criterion failure to dispose of glucose in the normal way, with the result that it accumulated in the blood and was excreted in the urine, they would find that very few varieties of glycosuria could be excluded from the diabetic group. The progress of research was tending to strengthen the belief that an internal secretion of the pancreas was the dominant, if not the sole, controller of carbohydrate metabolism, and that, with few exceptions, all varieties of glycosuria were, in a sense, of pancreatic origin. Although often no signs of disease could be found in the organ, it was probable that its internal secretion was subject to control by influences working from a distance or emanating from other glands of internal secretion. Dr. Robert Hutchison (London) said that they must be careful in describing cases of transient glycosuria to avoid including cases which if followed up would prove not to be temporary. He thought that different causes were at work in transient cases than in others. Many were probably of nervous origin, and analogous to puncture diabetes. One could never give an opinion off hand without carefully watching as to whether cases of glycosuria discovered during examination for life insurance would become clinically diabetics; 20 per cent. had been found to pass into permanent glycosuria. He agreed that one could not draw a hard and fast line between "gouty glycosuria" and more severe types. Diabetes was a clinical term, and not a pathological one, and it was important to get at the cause in each case. It included not one disease, but many. Dr. Aldred Turner said that insurance cases in which glycosuria occurred included several classes: (1) Transitory, following overwork, influenza, etc.; (2) with a family or personal history of gout; (3) dietetic indiscretion or occupations which involved taking plentifully of alcohol; (4) those with a family history of diabetes. It was very difficult to distinguish between the transitory and intermittent type, and the latter might pass on to permanent glycosuria. Dr. P. J. Cammidge said that all modern research work tended to show that all glycosuria was due to metabolic disturbance, and all forms were related to each other. Therefore systematic treatment in the early stages before secondary metabolic disturbance occurred offered the best chance of relief and cure. In treatment it must be remembered that many so-called diabetic foods contained large amounts of starch. The question of cooking was very essential in the proper treatment of glycosuria. An excess of protein food was often taken, and the necessary amount of fat was not taken because administered in non-appetizing forms. Dr. J. F. Gordon Dill was convinced that certain cases of glycosuria directly arose from gouty conditions, as instanced by cases where much gravel was passed, either before or alternating with attacks of glycosuria. Such cases usually arose in middle-aged or nearly middle-aged patients. Glycosuria, however slight, was a matter of serious danger to the patient. In gouty cases it was of great importance to treat the gout. Dr. W. Essex Wynter agreed that on scientific lines no hard and fast line could be drawn between diabetes and glycosuria, but the effects were very different on the patient. General symptoms were not marked in glycosuria, nor were the knee-jerks absent. No acetone or diacetic acid occurred in the women. He had seen improvement follow the use of trypsinogen. An important complication associated with mild glycosuria was the occurrence of gangrene, the two conditions being constantly associated. Dr. Blackburn said that he had watched for several years cases of glycosuria where no diabetes arose, and he regarded them as a class entirely apart. One case he had watched as long as twenty-five years. The President (Dr. Hobhouse) had seen two serious cases following influenza, and would like to know what Dr. Garrod's experience was as to the severity of cases following febrile disease. He had tried trypsinogen without good result. Dr. Garrod replied.

SECTION OF NAVY AND ARMY, AND AMBULANCE.

AFTER a few words of welcome, Colonel J. Turton, late A.D.M.S. (T.F.), opened the work of the Section by giving a short sketch of the relation existing between the Voluntary Aid Detachments and the medical organization of the Territorial Force, showing how the gaps in the echelon of medical assistance from the fighting line to the general hospitals would be filled in by Voluntary Aid Detachments. Under present arrangements a number of experienced officers on completing their four years' appointment as A.D.M.S. were placed on the retired list; certain of these officers might be selected for the appointment of D.D.M.S. to organize voluntary aid in their respective districts, so that on mobilization the medical units for the lines of communication would be ready for immediate service. Major Birrell then read some notes on the work of the British Red Cross Society's units with the Bulgarians. Heavy and bulky articles could not be transported over the roads of Bulgaria, and this condition somewhat restricted the choice of equipment. A large quantity (3 lb.) of iodine was taken, and proved most useful in dressing surgical cases. At Sofia quantities of cotton cloth, needles, and thread were purchased, and enabled the units to manufacture sheets, pillow cases, etc., for the equipment of the hospital, which was located in two blocks of the new Turkish barracks at Kirk Kilisse. A graphic description was supplied of the trouble experienced in putting these buildings into a proper condition for the treatment of sick and wounded. Much filth and rubbish had to be destroyed; burning was satisfactory, although somewhat exciting owing to the quantity of live ammunition which was mixed with the rubbish. Shortage of good water was a permanent trouble; a storage tank out of the reach of dirty hands and cups was erected, but on the onset of frost the water froze, putting this plan out of action. The various improvizations which had to be carried out were ingenious and worth noting for future occasions. The *x*-ray apparatus proved a boon, not only to the British Red Cross units, but to all the other hospitals, as it was the only one in the place. In regard to the Turkish pointed bullet, Major Birrell agreed that it inflicted much the same kind of wound as the older ogival bullet. Still casualties in the firing line were not seen, and possibly it produced a higher percentage of immediately fatal cases. Major Birrell also mentioned the interesting physiological fact that the ration issued contained very little sugar, and that the personnel of the units, and more so the patients, suffered severely from "sugar hunger," which could not be alleviated, as no sugar was procurable locally till late in the campaign. In a paper on the relation of and utility of aeroplanes in connexion with the medical services in the field, Lieutenant-Colonel Donegan reviewed the different types of vessel which had been used for aërial navigation, and suggested that minature balloons might be anchored to show the position of hospitals in rear of the fighting. Of the remaining types he only proposed to use the hydro-biplane, invented by Colonel Cody, and which would carry four persons and Lieutenant-Colonel Donegan's operating table. His idea was that instead of carrying a severely wounded man who required surgical attention back to a hospital, the aeroplane should be dispatched carrying three medical officers (one of them a surgical specialist) and the operating table to the wounded man. The table was Lieutenant-Colonel Donegan's own invention, and was most ingeniously constructed.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

AT the first meeting of this Section, under the presidency of Dr. James Taylor, Sir George Savage opened a discussion on sleep and the treatment of sleeplessness. He dealt first with the theories of sleep, and considered the conditions of sleep rather than its causes. Sleep was essential to man. He did not believe in the existence of any special product, similar to hypnotism, which was capable of producing sleep. In his opinion the question of blood supply was the most important factor, and must be regulated, not only as regards the quantity of blood, but also its quality. He laid special stress on the necessity for prolonged hours of sleep during the early years of life, especially during education. After describing various forms of non-refreshing sleep, he referred to sleepiness. In giving some practical advice as to treatment, Sir George Savage warned practitioners against giving opiates, especially to neurotic subjects. He insisted on the necessity for varying hypnotics and sedatives.

Opium was best given in cases of acute bodily or mental pain, and, in small repeated doses, was often useful in cases of agitated melancholia. The sulphonal and veronal series he considered very useful in any cases, but some patients were very intolerant. Hydrotherapy, counter-irritation, and other measures often proved successful. In conclusion, Sir George Savage referred to hypnotism in the treatment of sleeplessness, and expressed the hope that members taking part in the discussion would give their experience of this form of treatment. Dr. W. H. Butler Stoddard advanced the view that sleep was induced by the presence of carbon dioxide in the blood. He thought that the synaptic resistance was raised. Dr. Hubert Bond expressed the opinion that much could be done by employing adjuvants to sleep—(1) open air, (2) continuous bath. He also advocated hypnosis. Dr. Constance E. Long urged strongly the advantages of hypnotism in the treatment of sleeplessness, and pleaded for a fair trial to be given to this line of treatment. She considered that suggestion played a large part in the action of drugs in inducing sleep. Dr. Robert Jones agreed cordially with Sir George Savage as regards the necessity for prolonged sleep for growing girls and boys, and concurred with Dr. Bond as to the usefulness of open-air treatment, the continuous bath, and massage as adjuvants to drug treatment. Dr. T. Johnston agreed with Miss Long. Dr. Knowles Stansfield spoke of the state of the blood pressure in sleep and the effect of various hypnotic drugs on the pressure. Dr. Eder strongly advocated hypnotism, and thought that in some cases psycho-analysis might prove useful. Dr. T. Williams held that a wise doctor would find out the cause of the sleeplessness without subjecting the patient to extensive psycho-analysis, and that in many cases it would not even be necessary to resort to hypnotism.

Section of Ophthalmology.

THE President (Mr. T. H. Bickerton), after the meeting of the Section, discussed the position of the profession as regards ophthalmology during the nineteenth century, and the part played in regard to the subject by the British Medical Association, and Mr. Reeve (Toronto) voiced the opinion that such an interesting address demanded the thanks of the Section. Mr. John Hern (Darlington) opened the discussion on school clinics and the prevention of myopia. He considered that there was a tendency to myopia in everybody, and it was much increased by the hanging of the head down as in reading, and also by the compression of the eye between the recti muscles. Raising the desk, the use of good light, and the correction of the error were the most important prophylactic methods. Mr. A. F. MacCallum (Egypt) read a paper on the school clinics of Egypt, where about 96 per cent. of the children suffered from trachoma, and mentioned the good results of treatment. Dr. Maddox (Bournemouth) said that stooping was a very important factor in the development of myopia, and he suggested several ideas for the better education of myopic children. Mr. H. T. Harrison Butler (Coventry) was in disagreement with the previous speakers. He spoke of the conditions in Germany, and did not consider that the action of the muscles nor of stooping had the slightest effect. He thought malignant myopia was due to abnormal softness of the sclera, which was unable to withstand the normal tension. He considered that myopia was always due to bad hygiene, and not to mechanical causes. Dr. J. Wilson (Glasgow) was in complete agreement with Mr. Harrison Butler, and pointed out that myopia was by no means confined to those doing near work, and thought that school work *per se* was by no means an important cause. Mr. Bishop Harman (London) said that the numbers of cases of myopia in London schools was above 1 per cent. He totally disagreed with the figures given by Mr. Butler from Germany as being in any way applicable to English children. Dr. Weeks (New York) considered that close work conduced to myopia, but bad health, etc., much favoured it; one of the most important factors in its treatment was its accurate correction. Mr. Reeve (Toronto) thought that real myopia never disappeared, but often opticians gave minus glasses to emmetropes or hypermetropes. Mr. Parsons (London) said that hereditary myopes did not alter at all, and he doubted the influence mechanically of stooping, but he was certain that muscle pressure was of high importance, and another vital condition was that of efficient lighting of schools and factories. Colonel Elliot had never found a case of myopia which became emmetropia. Trachoma in India was spread by cosmetics. Mr. Inglis Pollock disagreed with much of what Mr. Butler said. He thought that much could be done to prevent myopia spreading. Dr. Marion Gilchrist (Glasgow) thought the most important thing was the careful correction of the refraction and the conditions under which work was done. Colonel Pridmore found myopia in boys in Burma, but they were far more studious than the girls. The President summed up the question. Mr. Maddox, in a paper on supracorneal sutures and an operation for conical cornea, described sutures which were designedly laid over the face of the cornea, either nakedly or with the intervention of oiled membranes. These were to produce direct traction on the cornea, and were of value in certain cases of ocular traumatism and after operation for conical cornea by excision of an ellipse. Mr. Devereux Marshall (London) asked whether a symblepharon was not produced by drawing the conjunctival flap across the cornea. Dr. Maddox said that the conjunctiva always slipped back when the stitches were removed. Mr. John Hern and Mr. Brailey highly approved of the conjunctival flap. Dr. J. A. Wilson read a paper on nystagmus, chiefly non-miners' nystagmus, which was discussed by Mr. Harrison Butler and Dr. Weeks. Mr. Bishop Harman showed a test type for children and imbeciles.

Section of Pharmacology, Therapeutics, and Dietetics.

THIS Section met in the Library of the Municipal Training College, Dr. W. Hale White, President, in the chair. The first paper was read by Dr. H. Gray Barbour (University of Yale), who dealt with the pharmacology of the body temperature, and gave an account of experiments on rabbits which had been carried on in the pharmacological laboratories of Yale and Vienna. Among other things, he found that cold and heat were specific stimulants of the heat regulating centre; thus, heat centrally applied lowered body temperature, while cold raised it. He referred to the results of direct application of various drugs to the caudate nucleus. Applied in this way antipyrin, chloral, quinine, alcohol, and adrenin lowered body temperature, while caffeine raised it. He also referred to the results of operative removal of parts of the brain, and suggested that the centre for the dissipation of heat was situated higher up than that for its production. In the discussion which followed the President, Dr. Gunn (Oxford), and Dr. Low (Cambridge) took part. Then followed a valuable discussion on urinary antiseptics, which was very ably and lucidly introduced by Mr. J. W. Thomson Walker. After clearing the ground by a general consideration of the whole problem, Mr. Walker took up specially the antiseptic value of the formaldehyde series of urinary antiseptics and their dosage, and later the effects of variation in the reaction of the urine upon bacterial growth and upon the action of antiseptics in the urine. Among the points he emphasized were the efficacy of urotropine in an acid urine, its selective action on micro-organisms, the relative power of acid sodium phosphate and ammonium benzoate to make the urine more acid, and of potassium acetate, citrate, and bicarbonate to make it alkaline. He gave illustrative examples from cases. Professor Bradbury (Cambridge) followed, and related his clinical experiences of the use of urinary antiseptics. In the discussion which followed the President and Drs. Hunt (Brighton) and Gunn (Oxford) took part. Members were unanimous in their approval of the subject of the discussion and of the way in which it had been introduced.

Section of State Medicine.

OWING to the unavoidable absence of Dr. Hope (Liverpool), President of the Section, the chair at the opening meeting of the Section of State Medicine was taken by Dr. W. A. Bond (M.O.H., Holborn). The subject for discussion was the prevention and treatment of tuberculosis, and this was carried on on two parallel lines—namely, first, the functions of the tuberculosis officer,

and, secondly, treatment by tuberculin. Dr. H. O. West (Tuberculosis Officer for the County of Kent) dealt with the functions of the tuberculosis officer from three points of view—namely, in his relationship (1) to the public health authorities; (2) to other medical men, especially general practitioners; and (3) to patients and the lay public generally. (1) The position of a tuberculosis officer in relation to the central public health authority should be that he was a clinical expert on the staff of the medical officer of health, responsible to him alone as his chief, and working alone under his direction. Such an arrangement was simple in a county borough, but might lead to difficulties in a county area with several local medical officers of health, but he thought there could be no possible controversy if the tuberculosis officer was regarded as a consulting physician, dealing only with the clinical treatment of patients, and leaving the whole sanitary question to the local medical officer of health. There need be no suspicion of a tuberculosis officer usurping the functions of a medical officer of health, and in his opinion it would be much better if these officers were Members of the College of Physicians rather than holders of a diploma in Public Health. (2) With regard to the relations between the tuberculosis officer and general practitioners, it was quite unnecessary that there should be any friction, but both should work together on the lines indicated. And (3) as regards patients, the tuberculosis officer should be recognized as a consultant. Dr. Sewell Cooke, in the absence of Dr. Camac Wilkinson, outlined the treatment by tuberculin as it was carried out at Dr. Wilkinson's dispensary, laying special stress on the method of increasing the doses as rapidly as possible, so long as the patient could tolerate it, and not only increasing the dose by a definite ratio, but increasing the increase. The cases were selected in so far as extreme cases and cases of mixed infection were excluded, and by this means they were enabled to treat 75 per cent. of the cases coming to them, and claimed successful results in 70 per cent. of the cases treated. In reply to an inquiry as to what was his criterion of success, he mentioned restored energy, increased vigour and capacity for work without being tired, diminished cough without entire disappearance. He believed that patients with cavities in the lungs might be considered as carriers of the disease, though they themselves were for all intents and purposes cured. Dr. Duncan Forbes (M.O.H., Brighton) was of opinion that the medical officer of health should be the chief administrative officer, and that the tuberculosis officer should act as a consultant and also as assistant to the medical officer of health in preventive work. In giving statistics as to tuberculin treatment cases which showed tubercle bacilli in the sputum should be separated from those which had not shown tubercle bacilli; and tuberculin must establish its reputation on its results in the treatment of cases showing bacilli in the sputum if the profession was to place faith in it. Dr. J. McKeith (London), speaking as a laryngologist, stated that he had noticed considerable improvement from tuberculin treatment in laryngeal cases, and gave it as his opinion that atrophic rhinitis was in most cases of a tuberculous nature and amenable to treatment by tuberculin. Dr. Murray Leslie (London) strongly emphasized the view that tuberculosis ought to be diagnosed and treatment commenced before tubercle bacilli appeared in the sputum or physical signs could be found in the lungs—in fact, in the closed stage, before the disease became open. Dr. Griffith (Hove) said that one advantage of the discussion was that a definition had at last been received of what Dr. Camac Wilkinson and his assistants considered the criterion of success in tuberculin treatment. While recognizing the value of Dr. Wilkinson's work, he could not agree with his statistics. The Chairman, Dr. Bond, dwelt on the causes of the decline in tuberculosis, and Dr. W. Ewart (London) laid special stress on direct treatment of the lungs. Dr. McWalter (Dublin) believed that sanatorium treatment had been an absolute failure. The session concluded with the passing of the following resolution, proposed by Dr. Heggs (Sittingbourne):

> That this Section of State Medicine recommends to the Council of the British Medical Association that representation should be made to the Government that in cases of tuberculosis receiving sanatorium benefit the sickness benefit provided should not lapse at the end of six months, but should continue so long as the patient is, in the opinion of the medical adviser to the Insurance Committee, unfit for work.

Section of Surgery.

The Surgical Section, under the Presidency of Mr. Thelwall Thomas, of Liverpool, had under discussion the all-important subject of the diagnosis and treatment of primary carcinoma of the stomach. Mr. G. H. Makins led the debate. He pointed out that two causes contributed to the unpopularity of operations on the stomach in this country—the lateness of coming of these cases within the reach of the surgeon and the fact that the family doctor acted more promptly when symptoms of obstruction appeared in intestinal cancer than when symptoms of stomach mischief threatened to prove intractable. The frequent employment of gastro-enterostomy had exhibited also possibilities of removal of tumours hitherto unthought of. The difficulty of early diagnosis was still paramount, and indeed it was not too much to say that sure early diagnosis was not possible. One might employ test meals, skiagraphy, careful inquiry into clinical and past history, the refined methods of blood examinations, and yet fail to differentiate between an innocent inflammatory mass and a cancer, or even fail to assure oneself of the presence of disease at all. All that could be said was that one might be suspicious of malignancy in a patient who, having had formerly a long history of indigestion, had a period of relief of symptoms, then comparatively suddenly began to suffer from obstinate gastric symptoms, or in a patient past middle life who, never having had stomach trouble, suddenly complained of indigestion which would not yield to treatment. He regarded the exploratory operation as of the highest importance as a method of diagnosis. It was in early cases attended with practically no mortality risk. But he would like to point out that in advanced cases, where exploration might be done to determine whether radical operation were possible, it was attended with quite decided risk. Then again, even after exploration, it could be a matter of difficulty to decide whether the tumour felt was a malignant mass or simply an inflammatory one. Perhaps, after all, it did not matter, as the treatment was the same; it might be as unsafe to leave a hard, dense, cicatricial mass formed around an old-standing ulcer, with its prospects of becoming malignant, as an actual cancerous tumour. Methods of treatment were determined by extent and position of growth. Pyloric tumours comprised quite a half of all cases of stomach cancer, and it was these that he thought were amenable to radical operation. Growths at the cardiac end were unsuitable to any but palliative methods. Lymphatic glandular involvement varied, and its amount bore no relationship to the size of the original growth. Extensive enlargement of glands might be due, not altogether to metastasis, but to simple inflammatory infection, so that he was not deterred from attempting complete removal of the tumour, even though complete removal of glands was impracticable. Partial gastrectomy was a much more satisfactory procedure than palliative gastro-enterostomy, and it was not accompanied by a great degree of shock. Gastro-enterostomy should be restricted to cases in which partial gastrectomy was impossible; the relief it afforded did not extend on an average beyond a period of five months. Mr. Makins's review of the subject was completed by reference to the various operations performed. The most generally useful operation was on the lines of Billroth's second method: Removal of pylorus and portion of lesser curvature, closure of duodenal stump, and posterior or anterior union of jejunum to remainder of stomach. Mr. Hey Groves (Bristol) agreed with the difficulty in diagnosis. It was a fallacy to expect that definite diagnosis could be made by chemical and physical means when it was assumed that every case was either definitely malignant or definitely benign. Dr. T. K. Dalziel (Glasgow) thought that the early diagnosis was as difficult as early diagnosis of cancer in any situation. He strongly held that complete eradication of the disease by partial or complete gastrectomy was the only sound treatment. Mr. R. Jowers (Brighton), Mr. A. Buck (Brighton), Mr. McAdam Eccles (London), Mr. P. D. Wilkie (Edinburgh), Mr. Betham Robinson (London), and the President contributed to the discussion, and Mr. Makins briefly replied.

Mr. D. P. D. Wilkie read a paper containing experimental observations on the cause of death in intestinal obstruction; and Dr. A. A. Warden narrated his experience of the success of radium in the treatment of inoperable cancer, and held that a distinct place was to be found for it second in importance only to surgical operation.

SECTION OF TROPICAL DISEASES.

THE discussion on the causes of invaliding in the tropics was opened by Dr. Basil Price, who mentioned the following as fairly constant factors in affecting health and disease: Temperature, humidity, elevation, endemic disease, prevalence of mosquitos and insanitation. The location, habits, and idiosyncrasy of the individual entered into the problem of health and disease. In almost all countries in which missionaries laboured, neurasthenia and insanity played a most prominent part in causing invaliding, and in many countries were the most important causes. The impulsive, enthusiastic, but easily depressed person could not stand the strain of the conditions inseparable from a tropical life and work, unless he possessed also a strong leaven of common sense, humour, and good self-control. Against many diseases met with in the tropics safeguards could be secured directly, such as against small-pox, enteric, and indirectly by teaching the methods of warding off malaria, yellow fever, filaria, etc. In this connexion Dr. Price advocated that missionaries should have systematic instruction in health and hygiene before going abroad. Tuberculosis was a very frequent cause of invaliding, and all candidates for employment in the tropics should be prevented from going abroad if there were any history of tuberculosis in the family. Colonel R. I. S. Simpson, C.M.G., A.M.S.(ret.), drew his observations from Army Medical Reports extending from 1896 to 1910. The average of the ratios per 1,000 for all foreign stations for all diseases between 1906–10 was 24, of which 8 was due to tropical disease—, usually malarial fever, especially at Mauritius, West Africa, and South China. In India between 1907–11, both inclusive, the number of cases permanently invalided from amongst 72,000 European troops were—enteric fever 21, beri-beri 4, dysentery 1, kala-azar 3, malaria 18. Surprisingly few cases were invalided for dysentery, hepatitis, enteritis, or diarrhoea. The predominance of nervous and mental diseases was distinct, and West Africa was above the general average in this respect; the commoner types were epilepsy, melancholia, and delusional insanity. Colonel Simpson arranged the important causes of invaliding as (1) nervous and mental disease, (2) tuberculous disease, (3) diseases of the special senses, (4) diseases of the heart, and remarked these were the same causes which were effective in Great Britain, and almost in the same order. Dr. W. F. Law, of British Guiana, held that more attention to early symptoms of malarial fever should be paid, that regular daily use of quinine should be followed, long rest secured after acute malarial attacks have passed off, and longer leave to temperate climates, taken together with great caution in regard to the use of alcohol. Mr. James Cantlie supplied observations on sprue, mentioning fever in sprue and neuralgia of the anus as fatal symptoms. He also described muscular spasm amounting to tetany in 7 cases of sprue seen by by him within the last five years. He advocated collosol argentum.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Mental Deficiency Bill (Scotland).

SITTINGS of this Committee were held on Thursday and Friday, July 17th and 18th, and at the conclusion it was arranged that the Committee should meet on Monday, July 21st, and continue sitting, notwithstanding the meeting of the House.

Considerable progress was made with the bill, and Clause 21 was under discussion at the adjournment of the Committee, the previous clauses having been added to the bill, except that Clause 20 was postponed.

In Clause 3 a parish council was added to those who may institute proceedings in connexion with a defective, and an amendment relating to their powers was introduced into paragraph (c), Clause 4, confining their powers in the case of a defective under the age of 16 to one for whom it is the duty of the parish council to make provision.

The certificates also of two duly qualified practitioners, one of whom shall be approved by the local authority for the purpose, was provided for in an amendment, as was the case in the English bill, and other amendments to accord with this were made in latter clauses.

By a subsequent amendment it was provided that, whenever practicable, one of the certificates should be under the hand of the usual medical attendant of the alleged defective.

The provision that a petition might be accompanied by a declaration that a medical examination was impracticable was deleted, and the consent of the parent, as provided for by an amendment to the English bill, was similarly required on petition, by an amendment moved to Clause 7 by Mr. Duncan Millar in the following terms:

> Where the petition is not presented by the parent or guardian, the order shall not be made without the consent of the parent or guardian, unless, in the opinion of the sheriff, such consent is unreasonably withheld, and the withholding of such consent is calculated to prejudice the best interests of the defective.

It was also provided that two persons appointed on behalf of the defective shall attend the proceedings before the sheriff.

At the conclusion of the sitting on Thursday, July 17th, Clause 18 was under discussion, the clauses between 8 and 18 having been passed either unamended or with unimportant amendments.

With respect to the disqualification of Commissioners and other officers of the Board of Control who are debarred in Clause 19 from being interested in any certified institution or house in which defectives are received, the following provision was inserted on the motion of Mr. Pringle:

> If any person holding any such office as aforesaid acts when he is disqualified under the provision of this section, he shall be guilty of an offence punishable by fine or by imprisonment for a term not exceeding two years.

The provisions with respect to district boards in lunacy in Clause 21 were altered on the motion of Mr. McKinnon Wood to provide that they should be designated as district boards of control, and the Board of Control was authorized to alter the number of members of district boards as might be necessary.

On Monday, July 21st, the sittings of the Committee were continued, and the amendments proposed by Mr. McKinnon Wood in respect of district boards of control were inserted in Clause 21, and an amendment provided that women should be appointed as members.

In Clause 24, dealing with the powers and duties of boards, an amendment was inserted, on the motion of Mr. Pringle, enabling them to "take such steps as may be necessary for ensuring suitable treatment of cases of mental deficiency."

An amendment was made in Clause 25 providing that the cost imposed on the district board should not be more than an equivalent amount granted by Parliament.

The Committee adjourned, and the subject under discussion was that the clause should stand part of the bill.

The money resolution to authorize the expenditures under this bill passed through Committee in the House of Commons on Friday, July 18th, and Report on Monday, July 21st. A certain amount of obstructive discussion was engaged in by the members who have opposed the bill in the House and in Committee, and the usual heckling of the Secretary for Scotland by some of the Liberal Scottish members was indulged in. The Committee stage was finally agreed to by 193 to 30.

On July 22nd Clauses 25 to 29 were added to the bill. No material amendments of professional interest were made to these clauses.

Vaccination.

Vaccination Lymph.—Mr. Albert Smith asked the President of the Local Government Board whether he was prepared to issue orders to the officers of the Government lymph establishment for the exclusive manufacture of

vaccine of all-English origin, and derived only from the cow-pox disease, as contemplated by law, seeing that he had no precise information as to the origin of the vaccines cultivated by his department, and that most, if not all, the vaccines obtained from the Continent were derived from small-pox matter, and consequently contravened Section 32 of the Vaccination Act, 1867.—Mr. Burns said he was advised that it was not necessary to make any change in the practice which was now followed.

Vaccination Marks.—Mr. Burns said, in reply to a question by Mr. George Roberts, that he was not aware that in the United States it was usual to perform vaccination with one mark only, nor did his information enable him to confirm the statement that the mortality from small-pox, as well as the case mortality rate, was much lower in the United States than in this country. Having regard to the findings of the Royal Commission on Vaccination in regard to this point, he did not propose to alter the present practice.

Cost of Public Vaccinators.—Mr. Burns said, in reply to Mr. Chancellor, that the total number of public vaccinators now in office in England and Wales was 3,684. The figure given included some public vaccinators who acted in more than one district, and were therefore counted more than once. The following awards have been certified during the year ended—

	£	s.	d.
March 31st, 1904	14,938	10	0
,, ,, 1905	17,372	1	0
,, ,, 1906	12,457	19	0
,, ,, 1907	23,114	2	0
,, ,, 1908	15,468	17	0
,, ,, 1909	10,745	19	0
,, ,, 1910	15,481	8	0
,, ,, 1911	13,099	5	0
,, ,, 1912	8,320	11	0

The amount of fees paid to these officers during each of the years could not be given.

Conscientious Objections.—Mr. Burns gave, in reply to a question by Mr. Ramsay Macdonald, the following figures as to the total number of exemption certificates or declarations of conscientious objection to vaccination received by vaccination officers during the calendar years 1907–12, inclusive; and the percentage of such objections to total births registered during those years:

Year.	Exemptions.	Percentage of Total Births Registered.
1907	57,675	6.3
1908	162,799	17.3
1909	190,689	20.9
1910	230,947	25.7
1911	248,483	28.2
1912	275,929	31.6

Midwives in Irish Workhouses.—In reply to Mr. T. M. Healy, Mr. Birrell said that extern midwives were employed in forty-five workhouses in Ireland. These women were required to act under the directions of the medical officer of the workhouse, and after much careful consideration the Local Government Board came to the conclusion that it was better that they should be under the general instruction of the medical officers than that an attempt should be made expressly to define their duties by general regulations.

Programme of Parliament.—The Prime Minister announced at the meeting of the House on Tuesday, July 22nd, that the Milk and Dairies Bill, the Bee Diseases, and Irish Creameries Bills would not be proceeded with. It was intended to pass, amongst others, the Mental Deficiency (England) Bill and the Insurance Act Amendment Bill, and he hoped also that the Elementary Education (Defective and Epileptic Children) Bill, the Scottish Mental Deficiency and the Public Health (Prevention and Treatment of Disease) Bills would be passed.

Public Health and the Prevention of Disease.—A short bill to amend the law relating to public health in respect of the treatment and prevention of disease has been introduced by Mr. Burns. The bill consists of four operative clauses. The first clause empowers the Local Government Board to authorize a local authority, notwithstanding Section 281 of the Public Health Act, 1875, to exercise in any part of a united district any powers which the joint board is authorized to exercise. The second clause empowers the Local Government Board to declare that a county council may be one of the authorities to execute and enforce regulations with respect to infectious diseases under Section 130 of the Public Health Act, 1875. The third clause empowers county councils to make arrangements with respect to the provision of laboratory facilities. This important clause may be quoted in full. It is as follows:

> 3.—(1) It shall be lawful for the council of any county or county borough to make any such arrangements as may be sanctioned by the Local Government Board for the treatment of disease and for the provision of laboratory facilities for use in connexion with the treatment or prevention of disease.
>
> (2) Any expenses incurred in providing such treatment or facilities shall, in the case of a council of a county borough, be defrayed as part of the expenses incurred by them in the execution of the Public Health Acts, and in the case of a county council as expenses for general county purposes, or if the Local Government Board by order so direct, as expenses for special county purposes charged on such part of the county as may be provided by the order.

The fourth clause relates to the powers of the Metropolitan Asylums Board, and is obviously introduced in view of the reception of tuberculous persons in connexion with the Insurance Act. It is as follows:

> 4.—(1) It shall be lawful for the managers of the Metropolitan Asylums District with the sanction of the Local Government Board to enter into agreements for the reception into hospitals provided by the managers of patients suffering from any disease, and for this purpose the managers shall be deemed to be a sanitary authority.
>
> (2) Any such agreements may provide that the cost of the treatment of the patients so received, or some part thereof, shall be borne otherwise than as provided by section eighty of the Public Health (London) Act, 1891.

Local Government Board Laboratory.—Mr. Astor asked the President of the Local Government Board under what votes the sum of £1,795 expended in connexion with the Local Government Board laboratory in London during the year ending March, 1913, was included; and how much of this total represented salaries.—Mr. Burns said that the sum of £1,795 was included under Subheads M, N, O, and P of the vote for the Local Government Board. Of this sum, £1,209 14s. 8d. represented salaries, wages, and allowances.

Ventilation of the House of Commons.—A committee has been appointed to report upon the ventilation and heating of the House of Commons and the Parliament House, and to suggest, if possible, practical measures for its improvement. The committee consists of Dr. Addison, Mr. Charles Bathurst, Mr. Dillon, Sir Philip Magnus, Captain Murray, Mr. Soames, and Captain Tryon. It was resolved that the committee have power to send for persons, papers, and records, and that three be the quorum.

London University.—Mr. King asked the Prime Minister whether any opportunity would arise before the end of the session when the House could discuss the report of the Royal Commission on the London University; and whether he could give an assurance that no site would be acquired for the University unless and until the approval of the House was signified on the proposal.—The Prime Minister said he knew of no such opportunity. He was not in a position to give the assurance asked for, since the Government had no present intention of making a grant towards the acquisition of a new site for the University.

Dogs Bill.—The Committee met again on July 23rd and decided not to proceed with the bill, in view of the deadlock reached at the meeting on July 16th and of the advice given by the Speaker, who had been consulted on the situation.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

Medical Inspection of School Children.

The annual report of the School Medical Officer for Manchester, Dr. Ritchie, for the year ending December, 1912, shows an ever-increasing amount of work. The number of parents who object to the routine examinations is almost negligible. Since 1909 the children have been selected for inspection according to the instructions of the Board of Education, and in addition children of the infants' departments under 5 years of age have been inspected, and cases of all ages requiring special attention. The medical officer considers that the 13-year-old group is unsatisfactory for routine examination, and that 12-year-old children would give better scope for more useful work. Altogether in 1912 the number of children examined was 26,896, of whom 6,392 were under 5 years old. This total is an advance of about 3,000 on last year's figures. The number in respect of whom directions were given to the parents for treatment of defects was 10,756, and the report gives a detailed table of the defects found, classified according to age and sex. The average time per head occupied by inspection is about seven and a half minutes, and it is not thought possible to accelerate the work beyond this point. In a review of the facts disclosed by the inspection, it is shown that as regards the height and weight of Manchester children there was in 1911 a small but definite increase, and in 1912 there was a further slight increase in both respects, with the exception of the 13-year-old boys, who showed a slight decrease in average weight. In the routine examinations, mental defectives were found to be 0.1 per cent. With regard to visual defects the total number of cases brought before the medical officer still increases, and there is still a fairly large number of parents who require considerable pressure before taking any steps to remedy the defect. During the year the Education Authority supplied at the request of parents 415 pairs of spectacles. There were 51 boys and 9 girls who received treatment for stammering in the special classes. A total of 557 cases were reported as suffering from otitis media, in addition to 259 cases of other ear diseases. The staff endeavours to ensure that treatment does not cease with the stopping of discharge, and the cases are not withdrawn as satisfactory until evidence has been obtained that the treatment has not been of a perfunctory nature. Dr. Ritchie insists on the fact that the staff at his service is insufficient to follow up the cases as should be done, and this is especially the case with the large number of children reported as having nits of the head or being verminous. The number of cases of skin disease recorded as found in the routine examination were—impetigo 353, ringworm 187, scabies 39, and other skin diseases 110. In connexion with ringworm the teachers are instructed to report all cases, and yet 187 were only detected in the routine examination. Altogether 2,003 notifications of ringworm were received at the office, and there were sometimes as many as 1,500 under supervision at one time. These children are brought periodically before the medical officer for inspection and testing of hairs, and no cases of ringworm of the scalp are allowed to attend school unless the hair over and around the patches is cut and a washable cap worn. Many of these cases are never taken either to a hospital or a doctor, and are practically dealt with at the office of the medical officer at what is termed an "observation clinic." Children affected with ringworm of the body are not allowed to attend school. Ninety-eight cases of phthisis were recorded, of whom 11 were among the 13-year-old children, 50 among the 5-year-old, and 37 among the special cases. During the year 1,303 cases of anaemia were reported. Parents were warned as to the danger in these cases, and were assisted as far as possible through several voluntary associations to provide their children with a period of residence in the country under good sanitary conditions, but the number that could be dealt with in this way was comparatively small. Many of them drag on, owing to the home conditions, from month to month, and not infrequently incipient phthisis is detected among them. Enlarged tonsils were reported in 1,259 cases, of whom 405 required attention; and of 978 cases of adenoids recorded, 614 were of such gravity as to have operative treatment indicated. There are still many parents who refuse to have anything done in these cases. Cases of measles and whooping-cough have for some years past been notified to the medical officer of health by the attendance officers, and it is said that the new local Act requiring parents to notify all cases of measles, German measles, and whooping-cough is being carried out fairly well. Formerly all contacts with these diseases were excluded from school, but, as the result of an inquiry made with a view to ascertain how far children over 7 years old who had had the diseases contracted a second attack, a regulation was made that children attending the higher classes, who are not themselves suffering, must stay at home until three weeks have elapsed from the date of occurrence of whooping-cough or the occurrence of the measles rash in the child last attacked, unless they have at some time had the disease, in which case they are at liberty to attend school. The report contains an interesting account of the work done in connexion with infectious diseases by Dr. D'Ewart, and special reports by Dr. Neave on squint in school children and by Dr. Woolham on colour work in schools. Dr. Ritchie recommends that the schools in the poorer districts be provided with baths; that one or more open-air schools be provided; and that provision be made for light treatment of ringworm cases. He further asks for more nurses and clerks and better accommodation for the medical staff.

Mr. Masterman on Malingering.

Mr. Masterman's remarks in the House of Commons with regard to malingering among insured persons, in which he charged Lancashire doctors with giving certificates carelessly or even deliberately when they ought not to be given, have been bitterly resented by medical men all over Lancashire, and especially in Manchester, which he particularly singled out for attack. It is difficult to understand how he could possibly have obtained proof of such a charge without the medical men concerned knowing about it; and, as a matter of fact, nothing is known of any such proved cases. It is felt that the reputation of the whole profession has been attacked, and at a meeting of the Manchester Local Medical Committee, held on July 17th, the following resolution was unanimously carried:

> The Manchester Medical Committee, being the only statutory medical insurance committee for Manchester, repudiates Mr. Masterman's reference to a Manchester committee composed of an equal number of medical men and representatives of approved societies as his authority for a charge against the medical profession of Manchester, which he has seen fit to make in the House of Commons. No such committee as that mentioned by Mr. Masterman exists. Further, the Manchester Medical Committee denies the charge of fraudulent certification, and calls upon Mr. Masterman either to substantiate it or to withdraw it.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Medical Appointments in Edinburgh.

At its meeting on July 14th Edinburgh University Court appointed Dr. James Ritchie, at present Superintendent of the Laboratory of the Royal College of Physicians, Edinburgh, to the Chair of Bacteriology in the university. To the interesting circumstances connected with the foundation of this chair reference has already been made in the JOURNAL (May 17th, p. 1076), and it remains to be added that its first occupant is M.A., M.B., and M.D. of Edinburgh University, as well as B.Sc. and M.A. of Oxford, for after his graduation in the former university Dr. Ritchie went to Oxford, where, at the request of Sir John Burdon-Sanderson, he initiated the teaching of pathology and bacteriology, and was in turn Lecturer, Reader, and Professor of Pathology. After sixteen years in the South, Professor Ritchie returned to Edinburgh as the Superintendent of the Laboratory of the Royal College of Physicians in 1907, and there during the past six years he has done much good work. He is well known as an investigator, as a writer on pathology and allied subjects, and he has

acted as examiner in pathology in various universities; and his occupancy of the new Chair begins with the best of omens. Another appointment in connexion with pathology is that of Dr. Theodore Shennan to the University Lecturership in Morbid Anatomy. Dr. Shennan, who is at present Pathologist to the Royal Infirmary, Lecturer on Pathology and Bacteriology in the Extramural School of Medicine, and Pathologist to His Majesty's Prison Commissioners for Scotland, is M.D. and F.R.C.S. of Edinburgh, and is well known for his work in pathology. He will be missed in the Extramural School, but his appointment as University Lecturer will help on the scheme for the closer co-operation in the teaching of pathology between the Infirmary and the University authorities. Yet another medical appointment—that of the assistant medical officer of health who is to act as tuberculosis officer for Edinburgh—has been advanced a stage further this week; for the Sanatorium Subcommittee of the Burgh Insurance Committee and a Subcommittee of the Public Health Committee of the Town Council have unanimously agreed to recommend for the post Dr. John Guy, who is a graduate (M.D.) of Glasgow University of 1900, holds the Diploma of Public Health of Cambridge, and is at present county tuberculosis officer, Gloucester, a post he has held for six months. Dr. Guy was for seven years superintendent of the sanatorium at the Bridge of Weir in connexion with Quarrier's Homes.

Tuberculosis Arrangements in Edinburgh.

The main provisions of the new arrangements for the treatment of tuberculosis in Edinburgh having now been carried through it remains to count the cost, and the *Scotsman* newspaper for July 14th gives the following estimate. On the footing that the Insurance Commissioners grant approval to the scheme, the expenditure and revenue of the Edinburgh Insurance Committee on Tuberculosis for the year from May 15th, 1913, to May 15th, 1914, will be:

Expenditure of Insurance Committee:		
Hospital treatment—200 beds at £65	...	£13,000
Domiciliary treatment—105,000 at 6d.	...	2,625
Additional treatment (for dependants)	...	800
Dispensary and officers—£1,000, less £100 charged to administrative expenses	...	900
		£17,325
Revenue of Insurance Committee:		
For hospital treatment—105,000 at 9d. (£3,937); but say	£4,000	
For domiciliary treatment	2,625	
		6,625
Deficit		£10,700

Post-Graduate Course for Medical Inspectors of School Children.

On July 14th the systematized post-graduate teaching in Edinburgh for the present year was begun, and the course on diseases and defects of children was opened. It extends over two weeks (July 14th to 26th), and in it the special needs of medical inspectors of school children are kept prominently in view, although this year the graduates attending it are more interested in pediatrics in general. Part of the teaching is carried out in the Royal Hospital for Sick Children, where the physicians (Drs. Melville Dunlop, John Thomson, J. S. Fowler, and Dingwall Fordyce), the surgeon (Mr. Stiles), the extra physicians (Drs. C. M'Neil, and J. W. Simpson), and the assistant surgeon (Mr. John Fraser), give medical, surgical, and out-patient clinics. At the Royal Infirmary Dr. F. Gardiner is giving clinics in the skin department, Dr. Logan Turner in the ear, nose, and throat department, Dr. W. G. Sym in the eye department, and Mr. J. H. Gibbs in dentistry. Dr. C. B. Ker, the superintendent of the City Hospital at Colinton Mains, teaches there on fevers; and Dr. R. D. Clarkson, the medical officer to the Scottish National Institute for the Education of Imbecile Children at Larbert (some twenty-eight miles from Edinburgh, but easily reached by rail), deals with the subject of mental defects of children in the institute in a series of three clinics. Dr. Halley Meikle, medical officer of health of the Edinburgh School Board, gives instruction on physical defects of children, methods of medical inspection, etc. In this way the several parts of pediatrics are overtaken in the course. Further, Sir Robert Philip is giving again, as he did last year, a series of clinical demonstrations on tuberculosis (diagnosis and treatment) at the Royal Victoria Hospital for Consumption and the Tuberculosis Dispensary, the class being limited to twenty.

Veterinary Arrangements in Edinburgh.

At the meeting of the Edinburgh Town Council on July 15th, Mr. Bruce Lindsay and Mr. Laing gave notice of the following motion:

> To remit to the Public Health Committee and the Markets Committee to consider and report as to the advisability of setting up a separate veterinary department for the city, under a duly qualified veterinary inspector, and to transfer to the city department the veterinary inspectors at present in the medical officer of health's department.

Edinburgh Nurses for the War in the Balkans.

On July 18th a party of ten nurses left Edinburgh for Athens in response to a request from Her Majesty the Queen of Greece for nurses for service among the sick and wounded in the war. Two of the ten are sisters from the Royal Infirmary, and seven others have been trained in that institution.

Lauriston Skin Diseases School, Edinburgh.

The Skin Diseases School in Lauriston Place, whose setting up was the occasion some time ago of a vigorous but ineffectual protest by the inhabitants of the district, had its distribution of prizes on July 16th. Mrs. Leslie Mackenzie, who presided, stated that the necessity for such a school lay in the fact that hundreds of children were prevented attending school owing to favus or ringworm, and the school was instituted for the purpose of educating these children and at the same time curing them. Since January of last year, when the school was opened, 109 cases had been treated. Dr. Norman Walker said that although the diseases treated there seemed trivial, yet they made serious inroads on the education of the children; there would be much less ringworm in Edinburgh during the next few years by reason of the existence of this school, and he regarded the fact that there was such a school as a great asset to the city.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

A Woman's Branch of the Indian Medical Service.

A Calcutta newspaper has a long article on this subject, in which it says that just as child-marriage may be abolished, the *Purdah* system may also disappear; but if India is to wait for these two great revolutions the children will for many years still be weaklings. The only resources at the moment, then, are the co-operation of the medical woman and the light she can bring to bear on the dark places of Indian domestic life. It was hoped that the Royal Commission now inquiring into the Public Services would also be entrusted with the consideration of suitable legislation for the employment of a woman's branch of the Indian Medical Service. So far as has yet appeared, however, this important and necessary development has not been suggested or touched upon. It is questionable, the article continues, whether the present constitution of the Commission of Inquiry is capable of dealing with such a matter, and far more chance of the right sort of legislation being obtained would result if expert evidence and advice bearing upon the subject were obtained. This would mean the appointment of a committee of ladies, but there is no reason why this development of the Commission should not take place, or if necessary a new Commission be formed. As to the importance of the subject, it is undoubted that the introduction of remedies for the present evils under which children are brought into the world in India, would certainly do more for the progress of the people than heated discussions concerning the merits of European and Indian civil servants.

Correspondence.

THE CONSERVATIVE TREATMENT OF TUBERCULOSIS OF JOINTS.

SIR,—I have read with great interest Mr. Stephen Fenwick's paper on the conservative treatment of tuberculosis of joints. For the last fifteen years I have carried out exactly the same treatment as he recommends, more especially in the ankle, knee, hip, and shoulder joints. Previous to Bier's treatment, the thermo-cautery and Syme's actual cautery gave in some cases excellent results. No doubt the cautery produces an increased leucocytosis, in the same way as Bier's treatment does. Thomas's splint in the hip and knee joints is excellent, along with plenty of fresh air. In the elbow-joint the disease is frequently so extensive before the patient comes to hospital that excision is the only treatment that is satisfactory. When this is correctly carried out the result is a very useful joint. I have used tuberculin vaccine ever since it was introduced to the profession by Sir Almroth Wright. I have been pleased with it. Excision, erasion, or removal of foci are only carried out when *x* rays show the disease to be progressing in spite of the above treatment. I am sorry that I cannot at the moment give statistics, but they can be supplied later if necessary.—I am, etc.,

J. CRAWFORD RENTON, M.D.,
Surgeon, and Lecturer on Clinical Surgery, Western Infirmary, Glasgow.

July 21st.

THE DIETARY OF TO-DAY—SOME OF ITS DEFECTS.

SIR,—In consequence of many very undesirable innovations in the matter of some of the most important of our foodstuffs, derangements attributable wholly to our dietary are on the increase, and it is becoming more and more difficult for our profession not only to combat those derangements, but to treat diseases generally on sound scientific principles.

Time was when the wheat flour from which our bread was made contained all the essential elements of nutrition. To-day, however, many of these essential elements are either abstracted or so altered by the roller process of milling the wheat that bread made from wheat flour is no longer the complete ration that it used to be. Moreover, quite recently there has sprung up the pernicious practice of subjecting flour which would not otherwise be readily marketable to the action of some bleaching reagent, and thus we are confronted with a new element of danger to our bodies.

Rice, which has for centuries been the food of the majority of mankind, is now unfortunately so altered by polishing and coating that it is no longer the wholesome, easily digestible, and highly valuable food that it was wont to be. Polished and coated rice, when partaken of extensively as a food, is apt, in fact, to so derange the metabolism of the nervous system that the sale of this cereal thus altered should be prohibited.

Again, butter made from pasteurized milk is not equal in nutritive value to butter made from milk as drawn from the cow. Pasteurization, it must be remembered, is practised for the purpose not merely of destroying some of the micro-organisms which, through carelessness, may have found their way into the milk, but because it enables the manufacturer to produce a butter of uniform taste and appearance from many different milks. When milk is raised to a temperature between 140° F. and 185° F. fatty acids are driven off and other important chemical changes which materially lower the nutritive value of the butter are engendered. It is on this account that renovated butter is less wholesome and of less nutritive value than sound butter.—I am, etc.,

London, W., July 17th. JAMES OLIVER, M.D., F.R.S.Edin.

BIG GAME AND SLEEPING SICKNESS.

SIR,—Every one who is concerned with the development of Africa, and with the study of these diseases which have been the greatest of the obstacles preventing the colonization of tropical countries by Europeans, must be deeply interested in the papers published by Kinghorn and Yorke, and by the discussions which their papers have occasioned.

Some of the work on which Kinghorn and Yorke base their advice—that big game should be destroyed in areas near settlements—has led to results which are not quite in accordance with the experience of those who have worked on human trypanosomiasis in East and in West Africa. These differences are probably attributable to varying conditions in the localities at which the observations were made. The correctness of their work and of the facts which their work made evident is unquestioned. The situation is clear; big game—especially antelopes—are the reservoirs of, and *Glossina morsitans* is the cause of, trypanosomes which cause fatal diseases in men and animals; there is no efficient means of controlling the fly nor of curing the diseases caused by the parasite. The only means which offers any immediate promise of controlling the situation is the destruction of the reservoirs. The clear-cut directness of the reasoning is striking; no less striking is the sufficiency of the ascertained facts with which arguments proffered against it can be met.

Such is the situation. The nature of the action which it prompts should depend upon the ultimate object of our racial activity in Central Africa. If it is to open up more areas to permanent, thrifty European colonization, then the game must go—for the present, at all events. Perhaps, through inherited centuries of habit and tradition, the impulse to preserve game is an imperative, social instinct to most Europeans; consequently, a suggestion that game should be exterminated inevitably excites hostile prejudice in most of us. But the question is too serious a one to allow sway to any such emotion; reason alone must decide it. However agreeable a little shooting may be, no real settler will hesitate for long in choosing between the game and his domestic animals. Nor will those who are not settlers regret the loss of licence fees, and of a wonderful playground, nor will they regret even the destruction of an interesting fauna, in the building up of permanent European settlements in the tropics.

In view of the facts, it is reasonable to carry out the experiment which Dr. Yorke proposes; I give it the wholehearted support of several years spent in the study of trypanosomiasis (nearly four of them in Africa); the support is given the more readily since it expressly limits the proposed destruction to a comparatively small area. The experiment, as Dr. Yorke outlines it, would soon show whether it were possible to prevent trypanosomiasis by the destruction of the big game in a limited area. And it would provide an opportunity to those engaged in carrying it out for supplying much-needed replies to many of the unanswered questions concerning trypanosomiasis and its transmission. Among the most important of them are those, which can only be answered through observations made on the spot by competent persons, concerned with the duration of trypanosome infection and with the existence and production of immunity to them.—I am, etc.,

Montreal, July 10th. J. L. TODD.

THE FORM AND POSITION OF THE STOMACH.

SIR,—Dr. John Haddon's interesting letter on the above subject, in which he advises that no drink of any kind should be permitted, in order to lessen the tendency for the accumulation of gas in the stomach and intestines, reminds me that he has not yet deigned to reply to my letter in which I ventured to remind him of the dangers of total abstinence from fluid. Apropos of this, I have long wanted to ask Dr. Haddon whether he was able to lift as much when he had reduced his weight by such abstinence from 11 st. 9 lb. to about 7 st., as he could when his weight was nearly double the latter figure. For my own part I cannot help but think that such an enormous reduction of weight, which he tells us gave him a skeleton-like look, could not have taken place except at the expense of some very valuable muscular tissue in addition to fatty tissue, etc.—a loss of muscular tissue which, in my opinion, would have rendered any labouring man totally unfit for his work. Dr. Haddon, however, may have reasons for thinking very differently, and I shall esteem it a favour if he will reply, as I am anxiously seeking information on the subject.—I am, etc.,

Liverpool, July 19th. WM. BRAMWELL, M.D.

THE ST. JOHN AMBULANCE ASSOCIATION AND AGRICULTURAL SOCIETIES.

SIR,—Two days ago I received a circular from the local secretary of the above association informing me that an ambulance station was being provided at the Royal Lancashire Agricultural Show to be held at Burnley at the end of this month, and it was proposed to arrange for the attendance on each day of one of the four divisional surgeons in Burnley, and the deputy commissioner instructed him to offer an honorarium of 10s. 6d. per diem. The deputy commissioner, I may say, is a doctor, Dr. Trimble, of Bamber Bridge, near Preston.

I wrote back in reply that I had no intention of giving my services; that if the Agricultural Society wanted a doctor to attend at their show they should employ a doctor of their own, and pay him what doctors have to pay for a locum—namely, a guinea a day for anything less than a week and railway fare; and that it was no part of the duty of the St. John Ambulance Association to provide cheap medical attendance at agricultural societies shows.

I should like to know if this is a new departure on the part of the ambulance association or if it has been going on for some years back in Lancashire and other parts of the country; will some of the readers of the BRITISH MEDICAL JOURNAL be kind enough to inform me?—I am, etc.,

JAMES GARDNER.

Burnley, July 7th.

INTERNATIONAL CONGRESS OF MEDICINE.

SUBSECTION OF ANAESTHESIA.

SIR,—In spite of the fact that the profession as a whole has been circularized, and that all persons known to be anaesthetists have received various circulars anent the work proposed to be done in this subsection, I find that anaesthetists even in London are unaware that any subsection on anaesthetics is in being. During the past week I have been repeatedly asked if it is proposed to consider any subjects germane to anaesthesia! May I therefore ask you to publish the statement that an extremely interesting programme has been arranged for discussions and papers dealing with general anaesthesia, local analgesia, and spinal anaesthesia. This will comprise such recent work as intratracheal and intravenous and colonic etherization, anoci-association, hedonal anaesthesia, post-anaesthesic toxaemias, and many other subjects which are at present prominently before anaesthetists. Many most distinguished *rapporteurs* have promised to open the discussions, and the executive of the subsection are most anxious that British and Irish anaesthetists shall add their quota to the subsection's work. Patriotism, as well as a desire to keep abreast of the science and art which they study and practise, will no doubt prove incentives to all anaesthetists to join the Congress and help those who have been at great pains to make the subsection a success.

A special museum for apparatus for producing anaesthesia is arranged, and it is hoped that all those who have apparatus whose merit or novelty is likely to prove interesting, will send it for exhibition.

The honorary secretaries in London (Dr. Scharlieb, 49, Wimpole Street, W.) and Scotland (Dr. J. W. Struthers, 2, Chester Street, Edinburgh) will gladly supply programmes and further information. I shall be only too glad to assist in like manner.—I am, etc.,

DUDLEY BUXTON, M.D.,
President of Subsection of Anaesthesia.

53, New Cavendish Street, London, W., July 23rd.

DISCUSSION ON THERMAL TREATMENT.

SIR,—The above discussion will take place on Tuesday morning, August 12th (and not on Thursday, 14th, as announced in the JOURNAL of July 19th).

May I take this opportunity of pointing out that, so far as I know, the uses, limitations and risks of thermal treatment have never hitherto been adequately set forth, and that, as they go to the root both of hydrotherapy and "spa treatment," their discussion by such authorities as Professors Landouzy, Vinai, and Laqueur cannot fail to be of much interest?—I am, etc.,

R. FORTESCUE FOX,
Joint Honorary Secretary, Section of Therapeutics.

London, W., July 21st.

Universities and Colleges.

UNIVERSITY OF ST. ANDREWS.

HONORARY DEGREE.

THE honorary degree of LL.D. was on July 10th conferred upon Lieutenant-Colonel Sir Charles Bedford, D.Sc., M.D.Edin., I.M.S.(ret.), in recognition of his researches and administrative work in India, especially with reference to Excise and Customs problems.

UNIVERSITY COURT.

At a meeting of the Court of St. Andrews University on July 13th, Dr. R. P. Mathers, Dundee, was appointed Lecturer on Diseases of the Throat, Nose, and Ear, and Miss Elizabeth Gilchrist, B.Sc., Assistant in Materia Medica. Principal Sir James Donaldson presided. The thanks of the Court were given to Professor Keibel, of the University of Freiburg, for the valuable series of models of different stages in embryology which he had kindly presented to the anatomical museum.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—P. E. Christofferson.
M.D.—*R. S. S. Statham.
D.P.H. (*Both Parts*).—T. S. Bradburn, C. C. C. Court, P. Moxey.
(*Part I only*).—W. R. Cooper, J. R. Kay-Mouat.

*Honours.

UNIVERSITY OF MANCHESTER.

THE following candidates have obtained the Diploma in Public Health:

P. Donald, M.B., Ch.B., Annie C. Greenep, M.B., Ch.B., A. W. Laing, M.B., Ch.B., A. R. M. McIlraith, L.R.C.P., L.R.C.S., Marion Stocks, M.B., B.S., H. G. Trayer, M.B., A. G. Wilkinson, M.B., Ch.B., G. G. Wray, M.B., Ch.B.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates have been admitted to the Fellowship:

A. I. Brown, W. B. Brownlie, C. Corben, R. Crothers, R. K. Dadachanji, J. K. M. Dickie, M. R. Drennan, E. C. East, M. Greenberg, F. J. Henry, F. N. H. Maidment, R. Massie, A. S. Roe, R. Stout, A. G. Talbot, J. Watson.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—A. Briscoe, M. Briscoe, M. J. Broderick, J. J. Crowe, F. Daly, W. Evans, J. Holland, H. Hurst, T. P. MacDonnell, G. F. Maher, D. B. McEniry, H. L. Mooney, B. J. Mulligan, M. J. O'Connor, M. M. Price, G. C. E. Roe, J. F. Seale, J. G. Thornton, D. E. Young.

SECOND COLLEGE.—*W. G. Thompson, Elizabeth Budd, J. Coffey, B. J. Daunt, M. Dockrell, J. A. Frotton, J. J. Hayes, B. Hirson, J. McGuire, J. A. McKinnon, Marjorie McMullen, T. Moore, T. F. Moran, J. F. O'Mahony, J. P. Pegum, P. K. I. Ryan.

*Honours.

THE third International Congress of Occupational Diseases will take place at Vienna on September 14th, 1914. Those who intend to present communications are asked to send them typewritten. They should reach the general secretary in February, 1914, at latest. The following is the programme of discussions: (1) Fatigue—physiology and pathology, especially in relation to professional work; action of such work on the nervous system; nightwork. (2) Work in hot and moist air. (3) Workmen's anthrax. (4) Pneumoconioses. (5) Hurtful effects of electricity in industrial labour. (6) Professional intoxications, especially aniline, mercury, and lead. (7) Hurtful effects of occupational work on the hearing. (8) Reports. A large number of communications on these subjects has already been promised. For further particulars application should be made to the General Secretary, Docent Dr. Ludwig Teleky, Vienna IX, Turkenstrasse 23. The Presidents are Dr. Francis de Haberler, chief of the sanitary administration of Austria, and Dr. A. Schattenfroh, Professor of Hygiene and Director of the Institute of Hygiene in the University of Vienna. In connexion with the congress there will be an exposition, in which will be represented as fully as possible everything relating to the origin, preventive measures, and clinical symptoms of occupational diseases, as also the whole influence of professional work on the organism in general, except the danger of accidents and the means of preventing them.

Obituary.

THE LATE PROFESSOR FRANCIS GOTCH.

PROFESSOR ARTHUR THOMSON (Oxford) writes: After a friendship of seven-and-twenty years one may speak with confidence of those aspects of Gotch's character which endeared him to his colleagues, and won for him that commanding influence which he enjoyed so long within the university. What Oxford science and the medical school in particular owe to him is difficult for us at once to realize, for we have been so long accustomed to his help and advice that we can hardly estimate his worth until we more fully appreciate his loss.

His strength lay in the honesty of his purpose, the breadth and liberality of his views, and his dogged determination in the cause of justice.

Gotch had a wonderful power of concentration. Whatever he took up for the time being absorbed his intellect and energies. Assured of the rights of the case, he spared no pains in getting up the details, and thus armed he was indeed a convincing advocate. Sure of the soundness of his position, he was not easily diverted from his purpose, and many a time achieved success in what at first seemed a hopeless cause.

It was the pluck of the man that won the respect of all, regardless of differences of opinion. There never was any suspicion that he was "playing to the gallery," for everyone was impressed by the sincerity of his views. Acutely critical, Gotch was quick to perceive and pierce the weak spots in the armour of the opposition, and in consequence was a force to be reckoned with. Combined with these virtues he had a remarkable aptitude for organization, and possessed a rare power of reasoned argument, so that it was not surprising that he won the confidence of his scientific colleagues, whose cause he so ably championed.

What wonder, then, that when the university found itself in the throes of "reform from within," Gotch was the man, more than any other, on whom the university relied for guidance in matters affecting science and medicine. His record on the Hebdomadal Council is the best testimony to the way in which he upheld the interests of these subjects. To him we owe more particularly the new statute concerning the constitution of the Board and Faculty of Medicine; the amended statute dealing with the composition of the electoral boards to professorships; whilst the proposal to institute a pension fund for professors profited much by his experience and foresight. Nor should we forget the very prominent part he played in securing for chemistry the adequate laboratory accommodation rendered necessary to meet the present-day requirements of that subject. In other spheres of official life he gave of his best to the university; for a term of years he was an influential member of the delegacy of the Common University Fund, and was at time of his death a representative of the university on the governing body of Somerville College for Women.

It is of the man, however, so good and true, rather than of the official, that we shall ever cherish the memory. May I say, as one who has known him so long, how much I esteemed his confidence, and how much I profited by his friendship? On some occasions we disagreed as to questions of policy, but that never made the slightest difference in our amicable relations; it only served to strengthen our mutual respect. To me, possibly more than to any one else, were known the keen interest which Gotch took in the progress of the school, the uniform consideration which he showed for the well-being of his pupils, and the pride with which he followed their subsequent careers. On occasions, too, when he was sorely harassed by some misguided local antivivisector, one could not but admire the quiet dignity of the man. It was hard to realize how a lover of animals, such as he was, could be so misjudged. Of manner mostly serious, Gotch had a subtle sense of humour which oftentimes enlivened a social evening. Catholic in his tastes in art and literature, he had a musician's appreciation of music and a sportsman's fondness for games.

Cut off in his prime, he leaves a record of which any man might be justly proud. To fill his place in the councils of the university and as a guiding spirit in the destiny of the school will be no easy matter. The pity of it is that we should lose him thus so soon.

The funeral of Professor Gotch took place on July 19th. The body was taken from the residence of Sir Arthur Whitelegge at Kensington to Magdalen College, the first part of the service being conducted in the chapel. Among the chief mourners were Sir Arthur and Lady Whitelegge, Sir Victor and Lady Horsley, Sir Henry and Lady Hepburn, Dr. W. Ramsden, Sir Henry Bliss, Sir Walter and Lady Raleigh, and Professor Sir Edward Schäfer. Among others present were the Vice-Chancellor of the University (Dr. C. B. Heberden), the President of Magdalen, the Warden of New College, the Warden of Wadham, the Master of University, the Master of Balliol, the Rector of Exeter, Sir William and Lady Osler, Sir John Rose Bradford (representing the Royal Society), the Public Orator (Mr. A. D. Godley, Fellow of Magdalen), Mr. R. Lane Poole (Keeper of the Archives), Dr. H. M. Vernon, the Registrar of the University (Mr. C. Leudesdorf), the Assistant Registrar (Mr. E. S. Craig), Bodley's Librarian (Mr. Falconer Madan), Professor Oman, Professor Firth, Professor Sherrington, Professor Wright, Professor Gardner, Professor Geldart, Dr. G. C. Bourne, Dr. F. A. Dixey, Dr. Ainley Walker, Dr. H. P. Allen, Mr. A. G. V. Harcourt, Mr. D. R. Wilson (His Majesty's Inspector of Factories, representing the Home Office Committee on Factory Lighting), Professor J. N. Langley (Cambridge, representing the Physiological Society), Mr. J. A. R. Marriott (representing the Oxford University Extension Delegacy), Mr. Guy Thomson (representing Messrs. Barclay), Surgeon-General Sir A. F. Bradshaw, and Dr. J. S. Haldane. The interment took place at Wolvercote Cemetery.

WILLIAM HENRY LANGLEY, C.M.G., F.R.C.S.I.,

PRINCIPAL MEDICAL OFFICER, SOUTHERN NIGERIA.

WE regret to record the death, last month, of Dr. William Henry Langley, of the West African Medical Staff, who had won much credit both for himself and his profession, and for the country of his origin. Born in 1868, Dr. Langley received his professional education at Carmichael's College and in the schools of the Royal College of Surgeons in Ireland, becoming L.R.C.P.I. and L.R.C.S.I. in 1893, and F.R.C.S.I. in 1902. After completing his studies he worked for some years in the neighbourhood of Dublin, among other things acting as assistant surgeon at Richmond Hospital. He then accepted an appointment from the African Department of the Colonial Office. Soon after his arrival on the West Coast, he was called upon to take part in the Borgu expedition, for which he received the medal and two clasps, and within three years again saw active service on the occasion of the Kantagoro expedition, being mentioned in dispatches and receiving another medal and clasp. Finally—in the way of service in the field—came the Sokoto operations, for his services in which he was awarded the honour of the Companionship of the Order of St. Michael and St. George.

In the course of what on the West Coast of Africa is a long period of service, Dr. Langley acquired an unusually wide experience of life under tropical conditions, and this fact, coupled with his administrative abilities, rendered him an extremely valuable officer. He had been Principal Medical Officer of Southern Nigeria only since 1911, but before that had occupied the same post in the Gold Coast Colony, and had also been Deputy Principal Medical Officer in Southern Nigeria. In an official dispatch to the Colonial Office, Sir Frederick Lugard, the Governor of Southern Nigeria, stated that Dr. Langley's death was a very great loss to Nigeria. He had known Dr. Langley intimately for some years and felt his death keenly as a personal loss. There was no officer in the service who had the same personal knowledge of both areas of Nigeria, and it had been Sir F. Lugard's intention to put forward Dr. Langley's name in connexion with the post of Director of the Medical Department which it was proposed to establish under the scheme of amalgamation. Of this dispatch a copy was eventually sent to Dr. Langley's family by the Colonial Office, together with a communication to the effect that the Secretary of State desired to associate himself with the terms employed by Sir Frederick Lugard in speaking of Dr. Langley, "whose

unfailing tact, good temper, and keen practical intelligence, united to his great experience of West Africa, rendered him exceptionally well fitted" for the important post mentioned by Sir F. Lugard.

Dr. Langley, who usually enjoyed good health during his tours of service, was subjected to severe mental and physical strain in the early spring of this year, and fell ill about the middle of April, his death from fever and cardiac failure occurring at Ibaden on June 11th. His remains were interred the following day in the presence of a large gathering of officials, the ceremony being of a military character and ending with the sounding of "The Last Post."

Whenever their occurrence coincided with his periods of home leave, Dr. Langley was a regular attendant at the London dinners of the West African Medical Staff, and reference to the great loss which the service has experienced through his death was made by Dr. Prout when presiding at the summer dinner on June 16th.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Ivan Martin Aguilar, professor of gynaecology at Granada, aged 49; Dr. Domenico Lo Bello, lecturer on anatomy and a leading surgeon in Naples; Dr. Paul Coyne, for thirty-three years professor of morbid anatomy in the medical faculty of Bordeaux, and author of important writings on the structure of the mucous membrane of the larynx, the histology and development of the soft parts of the internal ear, a treatise on morbid anatomy, and another written in collaboration with his teacher, Leon Labbe, on benign tumours of the breast, in his 71st year; Dr. Rudolf Dick, a well-known gynaecologist of Bern, aged 61; Dr. Francesco Egidi, lecturer on laryngology in Rome; Dr. P. Gérente, formerly representative of Algiers in the French Senate; Dr. Frank Hartley, sometime professor of clinical surgery in the New York College of Physicians (Columbia University), aged 57; Dr. Manuel Pineiro y Hervá, professor of medical pathology and clinical medicine in the Medical Faculty of Santiago, Spain; Dr. Severin Lachapelle, professor of paediatrics in Laval University, Montreal; Dr. Stanislaw Parenski, professor of internal medicine in the University of Cracow; and Dr. Franz Samuely, extraordinary professor of medicine at Freiburg i. Baden, aged 33.

Public Health AND POOR LAW MEDICAL SERVICES.

ILFORD URBAN DISTRICT COUNCIL AND ITS MEDICAL OFFICER OF HEALTH.

As a result of some misunderstanding between the Ilford (Essex) Urban District Council and its medical officer of health, Dr. C. F. Stovin, the council passed a resolution asking the Local Government Board to assent to his dismissal. Upon the request of a number of ratepayers the Board agreed to hold a public inquiry into the causes of the friction, and this was opened on July 9th by Mr. F. O. Stanford, A.M.Inst.C.E., and Dr. E. Petronell Manby at the Ilford Town Hall. Dr. Stovin had the support of the whole of the medical profession, who signed a petition to the Local Government Board appealing for an inquiry. The circumstances which led to the inquiry may be summarized as follows:

Dr. Stovin was appointed medical officer of health by the council in 1902, and he continued as part-time officer until 1908, when, in consequence of the medical inspection of school children being added to the obligations of the council, they appointed him a whole-time officer at £600 a year. Shortly after Dr. Stovin began to inspect the school children he found that the work would take up too much of his time, and under the terms of the agreement he maintained that he was only called upon to superintend the work. The council at first hesitated, but eventually decided to appoint another medical man to undertake the work at £250 a year. But it was evident that some of the councillors thought Dr. Stovin ought to have included it among his duties. The next point of disagreement was over the conversion of some private houses belonging to Dr. Stovin in Cranbrook Road, one of the principal residential thoroughfares, into shops. The council thrice refused the plans because they did not conform to the by-laws as to building line. Dr. Stovin, however, proceeded with the work, and the council compromised matters by agreeing to accept some of the forecourt for road-widening purposes. Upon this land stood a tree, which Dr. Stovin regarded as an obstruction, and as it would have been dangerous, according to his statement, to have cut it down when the shops were finished he had it removed, much to the annoyance of the council, which threatened prosecution and other things. Some trouble next arose between the medical officer and the council over redrainage work in the town, which eventually culminated in one of the assistant inspectors in the Public Health Department being suspended. The climax of the friction was reached when Dr. Stovin published his annual report. The council alleged that the medical officer withheld certain pages in which he dealt with his treatment by the council until the report was bound up, and they took such great exception to the statements contained therein that they straightway passed a resolution asking the Local Government Board to dismiss Dr. Stovin.

When the inquiry was opened, Mr. Mackenzie, who appeared on behalf of the District Council, criticized what he called the high-handed attitude of Dr. Stovin, who, he said, by his defiance of the council, had created an impossible situation.

Evidence in support of the council's case was given at great length by the Chairman of the Council, Mr. W. J. T. Cullis, and Councillor B. Bailey, Chairman of the Public Health Committee, who moved the dismissal of the medical officer.

Mr. Kelsey, who appeared for Dr. Stovin, suggested to Councillor Bailey that it was rather a cruel procedure to ask for the medical officer's resignation just because he had been unwise. To this the councillor replied that Dr. Stovin had defied them all along the line, and they could stand it no longer.

The inquiry dragged on day after day until July 14th, when a conference took place between the inspectors and counsel for Dr. Stovin and the council. It was then adjourned until July 16th, when it was announced that the medical officer would withdraw all the charges he had made against the council and the staff. The council thereupon decided to rescind the resolution calling upon him to resign, and it was announced that the suspended assistant inspector would be reinstated. With the whole of the personal element removed, the inquiry proceeded simply upon the question of certain redrainage in the town.

The Services.

INDIAN MEDICAL SERVICE.

SURGEON WILLIAM SCOT.

IN the article entitled "One Hundred Years Ago" in the BRITISH MEDICAL JOURNAL of July 5th, a description was given of the pioneer work done in the introduction of vaccination in the East by Surgeon William Scot, of the Honourable East India Company's service. Dr. Scot was a man of some mark in India in his day, and some further particulars of his career may be of interest.

Six officers of the name of William Scott served in the Indian Medical Service in the first half of the nineteenth century, two in Bengal, three in Madras, and one in Bombay. The name of one of these officers is always spelt Scot (with one "t"), and the dates and facts of his service show that this Scot was the officer in question.

The India Office records do not mention the date of his birth or his qualification. He was appointed an Assistant Surgeon at Madras from January 1st, 1802, on the nomination of Mr. Thelusson, a director of the Company, and landed there on September 1st, 1802. In 1805 he was serving with the artillery of the Nizam's Subsidiary Force, and later in the year with the 7th Native Cavalry; while in 1806 he was posted as Surgeon to the district of Nellore, about sixty miles north of Madras. There he remained some four years, till he accompanied the expedition to reduce the islands of Mauritius and Bourbon, towards the end of 1810, and there he did the pioneer work on vaccination described in the JOURNAL.

In 1812 he went home on sick leave. He was promoted to Surgeon on March 30th, 1814, and returned to India that year, landing on December 31st. In accordance with the rules then in force he had to revert to military duty on promotion, and was posted to the 1st Battalion of Artillery. The records show him serving with that corps up to 1820, except for a short period in 1816–17, when he was with the 21st Native Infantry and 2nd Native Cavalry. On February 17th, 1820, he was appointed Secretary to the Medical Board and Superintendent of Vaccination, and held that post for over seven years. As Secretary he compiled "A Report on the Epidemic Cholera, as it appeared in the Territories subject to the Presidencies of Fort St. George (Madras); Drawn up by order of Government under the superintendence of the Medical Board; 4to, Madras, 1824." It was in 1817 that the historic epidemic of cholera, which first attracted special attention to the disease, occurred in Bengal, ravaging the Madras Presidency in the following years. A second edition of this work was published by Blackwood of Edinburgh and Murray of London in 1849.

On October 5th, 1827, he was promoted to Superintending Surgeon, and served in that rank for five years, returning to England again on sick leave in 1832. On leaving India the thanks of the Madras Government for his good services were issued in a special General Order; he had already received the thanks of Government eight years before for his report on cholera. He retired on May 30th, 1834, and drew his pension for nearly thirty years, dying on October 21st, 1863. The expedition to the islands in 1810–11 seems to have been his only war service.

Medico-Legal.

CHARGE AGAINST A MEDICAL PRACTITIONER.

AT the petty sessions at Littledean, on July 18th, José Manuel de Freitas, late medical officer to the Cinderford and District Friendly Medical Aid Association, was (according to a report which appears in the *Dean Forest Mercury* of July 18th) charged by Thomas Wm. Wright, the secretary, for that he, "on or about the 5th June, 1913, then being solely entrusted with the sum of £4 10s. in money belonging to the Cinderford and District Friendly Medical Aid Association, that he might apply the same in the purchase of certain surgical instruments, did fraudulently convert the said money to his own use or benefit." Evidence was given by Mr. Wright, Mr. Samuel J. T. Rowlinson (Vice-President of the Cinderford Medical Aid Association), Mr. Enos Taylor, Detective-sergeant William Hayman, and Inspector Parker, and the prisoner was committed for trial at the assizes in October next. The magistrate consented to accept bail, prisoner in his own recognizances of £100, and two sureties of £200 each. The prisoner was removed in custody.

Medical News.

THE name of Mr. Albert Lindow, M.R.C.S., Wynyard House, Gallosson Road, Plumstead, S.E., has been added to the Commission of the Peace for the County of London.

DR. HENRY BUCHANAN MURRAY, of Belfast, was admitted by the Right Hon. the Lord Mayor of Dublin a freeman of that city at a court held in the Dublin City Hall on July 8th.

A SERIES of demonstrations in clinical medicine will be given at the London Hospital Medical College, throughout August and September, beginning on Monday, August 18th, at 2.15 p.m., in the clinical theatre of the hospital. On Mondays Dr. Cecil Wall will deal with pulmonary tuberculosis; on Tuesdays diseases of the blood will be demonstrated by Dr. Grünbaum; on Wednesdays there will be diagnosis of abdominal diseases by Dr. Hutchison, and diseases of the ductless glands by Dr. Thompson. Dr. Head will deal with mental symptoms occurring in the practice of general medicine on Thursdays, and on Fridays Dr. Lewis Smith with common cardiac conditions. Members of the medical profession will be admitted on presentation of their private cards.

FOUNDER'S Day at the Yarrow Convalescent Home, Broadstairs, was celebrated on July 19th. After luncheon Sir Guilford Molesworth, on behalf of the assembly, congratulated Mr. Yarrow on the good work the home was doing. Mr. Yarrow, in response, after referring to the high state of efficiency in the home, which was, he said, due to the excellent staff, proceeded to state that in August last about forty children were simultaneously attacked with severe vomiting and diarrhœa, and it occurred especially among those children who had been ordered an extra quantity of milk. Suspicions having fallen on the milk, samples were dispatched to the Clinical Research Association, who reported that bacteriological examination had revealed the presence in the milk of the bacillus which gives rise to diarrhœa. Since this had not been the first or second outbreak, it had been decided to keep their own cows, in order that the children should have the purest possible milk. He considered the supply of pure milk of so great importance that he hoped the modern installation they had laid down would serve as a guide to improvement in the present most unsatisfactory milk supply throughout the country. The cows had undergone the tuberculin test with negative results, and would be periodically tested. The company then inspected the cow-barn and dairy where the animals were milked and the milk cooled under the most favourable hygienic conditions. It is proposed to keep the animals out of doors the whole of the year; in the winter they will be protected from the bad weather in an open brick barn without doors.

THE annual meeting of the Society for the State Registration of Trained Nurses was held at the Medical Society's Rooms, 11, Chandos Street, on Friday, July 18th, Mrs. Bedford Fenwick in the chair. The annual report having been adopted, Sir Victor Horsley said that both the medical and the nursing professions were united in the demand for registration, and their hopes were concentrated on Mr. Munro-Ferguson's bill. It was curious that a proposal of so much public benefit was opposed. No doubt the Government had its hands full, and was not inclined to take up a question supposed to interest only a small section of the community. The matter, however, was really of importance to the whole nation. Referring to the deputation on the subject to the Prime Minister, he said that Mr. Asquith had produced an old list of medical men opposed to registration, but this did not represent the opinions of the medical profession at the present day. The official attitude showed insufficient information. He suggested that a deputation should go to Mr. John Burns to call his attention to the shortage of Poor Law nurses, and that another should go to Mr. McKenna, who saw difficulties in the way of registration, and remove them. He further suggested that all practising nurses should give their names as supporters of Mr. Munro-Ferguson's bill. The Chairman said that the women in the hospitals were in sympathy with the society, but some courage was needed for them to come forward and so offend their employers. She thought it probable, however, that the nurses would put their names on paper in support of the society's objects. After some remarks by Dr. Chapple, M.P., a resolution was passed, *nemine contradicente*, protesting against the sending out of nurses by the London Hospital to private cases for gain at the end of two years' training. In another resolution which was carried unanimously the meeting called the attention of King Edward's Hospital Fund to the provision in the constitution of the Central Hospital Council that "the constituent hospitals shall be invited to contribute equally to the annual expenses," and asked for action with a view to the prevention of charitably subscribed funds being used in support of opposition to the registration of nurses.

MITZMAIN, who has investigated the part played by *Stomoxys calcitrans* in the transmission of *Trypanosoma evansi*, states (*Philippine Journal of Science*, vol. vii, Sec. B, No. 6) that only negative results were obtained in the attempts at direct mechanical transmission of surra with flies induced to bite healthy animals at intervals ranging from five minutes to three days after being permitted to complete feeding upon infected animals. Thousands of these insects were employed in 29 experiments involving the use of 3 horses, 6 monkeys, and 22 guinea-pigs; 27 experiments were performed in attempts to transmit surra by the interrupted method of feeding. All attempts proved negative where a single application of a varying number of flies was used, as many as 38 on a horse, and a maximum of 40 on a small guinea-pig. The intervals between feeding on infected and healthy animals averaged twenty-five to forty seconds in the two instances cited. In three trials interrupted feeding was employed in successive daily applications. An attempt was made to determine the minimum number of bites necessary to infect an animal, but even 40 bites were followed by negative results. The only positive result obtained was produced from a succession of 206 interrupted bites in which the flies were transferred immediately from the infected to the clean animal. The flies were applied for thirty-two hours altogether during a period of six days. These experiments indicate that *Trypanosoma evansi* does not develop in the body of *Stomoxys calcitrans*. Ninety-four days was the longest period in which laboratory-bred flies were tested for a cyclical development, and sixty-seven days was the maximum for wild flies. Organisms of surra were not found in *Stomoxys calcitrans* beyond eighteen hours after feeding on an infected animal, and the limit for infection by inoculation was ascertained in these experiments to be six hours. Pathogenic trypanosomes were found in the proboscis of the fly thirty seconds after feeding on infected blood. Within one minute and thirty seconds the organisms were not present in the mouth parts in a form capable of infecting guinea-pigs by inoculation. The wounds made by the labium of *Stomoxys* were not found to be a suitable channel for infection. Consequently it is not likely that surra in domestic animals is produced through this avenue by external contamination—namely, faeces, mouth parts, and pulvilli of infected flies. The intimate relation in the feeding habits of *Stomoxys* and of house-flies has been pointed out. *Stomoxys* has been demonstrated to provide through its bites means for infection by *Musca domestica* and other dung flies. These flies have been demonstrated to act as carriers, harbouring the surra organisms for several hours. No evidence was obtained to indicate that *T. evansi* is hereditarily transmitted to the offspring of *S. calcitrans*. The larva of this fly fed on surra blood does not continue to harbour the trypanosome, and the fly is "clean" upon reaching maturity. It is demonstrated that the individual glass-tube method is the most suitable for applying flies in feeding on experimental animals, and for keeping flies for long periods under laboratory conditions.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subject to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A. I. P. writes: Will any one tell me the exact reason why one does not prescribe aspirin to be swallowed with soda water? I have heard one or two patients say that on the advice of their doctors they always take the tabloids with soda water, and without harmful effect.

ANSWERS.

TREATMENT OF TAENIA SOLIUM.

DR. A. J. MANASSEH (Beyrout, Syria) writes: Will "A. W." who has employed male fern without success (BRITISH MEDICAL JOURNAL, June 14th, 1913) try chloroform in 30-minim dose mixed either with castor oil or croton oil and glycerine, given fasting and repeated in half an hour? This I found very efficacious in getting rid of the taenia.

SANATORIUMS.

DR. S. VERE PEARSON (Mundesley) writes: May I venture to counsel "A. H. (Liverpool)" to seek further advice about the construction of a sanatorium besides that which you give him in your issue of July 19th (p. 156)? If he will consult Mr. Vincent Hooper's article in the July number of the *British Journal of Tuberculosis*, and a booklet by myself on *The State Provision of Sanatoriums*, to be published next week by the Cambridge University Press, he will find very different advice about cubic capacity and single rooms from that which you give him. I am presuming the sanatorium he has in his mind is one for the working classes.

LETTERS, NOTES, ETC.

A SIMPLE METHOD OF ADMINISTERING PILLS.

DR. P. M. MUTTUKUMARU (Bandarawela, Ceylon) writes: I have found the following method very simple and effective: Place the pill under the tongue, take a mouthful of water, and swallow it. I do not claim any originality for the method, as it may have been recommended by others.

HOW TO STAMP OUT PULMONARY TUBERCULOSIS.

M.D. writes: The patient had applied for sanatorium benefit, and on being examined at his own fireside was found to be suffering from fairly advanced pulmonary tuberculosis. During the course of examination he had occasion to expectorate, and made a distinctly bad aim at the fire. On being asked how he ordinarily disposed of his sputum, he proudly said: "When I'm inside I spit into the fire (!), when I'm outside I spit on the road, put my foot on it and stamp on it." His mode of reply clearly implied that what he did not know regarding the control and eradication of pulmonary tuberculosis was not worth knowing, and he considered his own methods superior to any that were given him.

STATUES OF JENNER.

DR. H. C. MANLEY writes: With reference to a note on statues of Jenner by Dr. Clippingdale which appeared in the JOURNAL of June 14th, p. 1304, I think it right to mention that I saw a fine statue of Jenner in Genoa at the Palazzo Bianco, in the middle of the fourth room. Jenner is represented vaccinating a child said to be his son. The statue is by Giulio Monteverde.

BOYS' BOATS IN OPEN RACES.

DR. SHEPHERD BOYD (Leander Club), President, Harrogate Medical Society, writes: Justifiable exceptions have been taken by fathers to the fact that public school boys (Eton excepted) are allowed to compete with college eights. Such efforts must be injurious to the growing lad on physical grounds. When consulted by parents on this subject, I invariably advise them not to allow their boys to compete in such an unequal contest against men three or four years their senior.

THE METRIC SYSTEM.

DR. J. W. LINDSAY (London) writes: The other day I entered a chemist's shop in London, and asked for tabloids of sulphate of atropine. The chemist did not stock them, but said he would order them for me. I asked him what the dose would be in the tabloids. I said I thought it was something like $\frac{1}{200}$ grain. He said he would look up his list. He did so, and found that the dose was 0.0005 gram. "Just one moment," he said, "till I calculate how much it will be in grains." He figured it out carefully, and gave me the result. "It will be just *half a grain*."

BIRTH-RATES AND DEATH-RATES.

MR. BINNIE DUNLOP, M.B., Ch.B. (Glasgow) writes: A number of annual reports for 1912 have been issued recently by medical officers of health. They show that wherever there is a fall in the birth-rate there is practically always a fall in the death-rate. They also show that districts with high birth-rates generally have high death-rates, and that districts with low birth-rates generally have low death-rates. They seem, in fact, to uphold the Malthusian contention that the death-rates are still controlled by the birth-rates, and that so long as a death-rate is above the normal the only way to lower it is to lower the birth-rate—in other words, the only way to lower it is to encourage a stricter observance of the law of parental responsibility which is the basis of an individualist State. Medical officers of health never draw attention to the close correlation between fertility and mortality, but refer the excessive death-rates in their poor districts to bad sanitation, overcrowding, mysterious recrudescences of one or another of the infective diseases, etc. Is it possible that they are unaware of this close correlation?

TYPHOID SPINE: A NEUROSIS.

DR. JOHN HADDON (Denholm, Hawick) writes: In the BRITISH MEDICAL JOURNAL of July 12th Sir William Osler, under the heading of "Typhoid Spine," says: "I long ago departed from my original belief that the condition was always a neurosis," and, "The rapid and permanent recovery with psycho-therapy and its accessories supports my original contention that there are cases in which the dominant factor is a neurosis."

The late Professor Laycock held rather advanced views with regard to the part played by the nervous system in disease, and taught that the dropsy in Bright's disease was a neurosis. Idiopathic anasarca, discovered last year by a Russian physician, and so named in acknowledgement of the obscurity of its cause, is certainly a neurosis, as any one will admit who has watched its migrations. In it the fluid is confined to the skin, whereas in the dropsy of Bright's disease it has invaded the tissues. Recent physiological research seems to confirm Laycock's views, showing that, owing to failure of the eliminating organs, the nerve cells are, as it were, drowned. The nerve cell bursts, owing to excess of fluid, and the nucleus escapes. The function of nerve centres containing such burst cells must be interfered with, and modern investigations point more and more to the paramount importance of the nervous system in every disease, whether motor, sensory, or trophic.

FLEAS AND SULPHUR.

DR. JOHN BROOM (Kirriemuir) writes: In the note on typhus fever and its causation (June 14th, 1913, p. 1291) reference is made to the use of sulphur by travelling showmen and their kin to prevent the bites of body lice and other vermin. You say it is impossible to say that the suggestion is quite unfounded. Well, another fact. We got a Yorkshire terrier dog some time ago and our lives became intolerable to us all from the pest of fleas therefrom. He seemed to have a special attraction to fleas. I notice that some humans also have much more attraction than others in that way. I had noticed a letter in the JOURNAL from a doctor in the East of London referring to the taking of a sulphur tablet daily before going out to visit, he being so susceptible to fleas, so I followed his example. At the same time we put in the dog's drinking water a big piece of stick sulphur—he always drinks from his own dish. From that day the plague ceased; not a flea has been felt or seen. I gave up taking the tablets, and the sulphur in the water is quite effective. The piece of stick sulphur is seemingly no less with lapse of time. The importance of the point is that people in insect-ridden places might keep stick sulphur in their drinking water and perhaps suffer less from midges and mosquitos, to say nothing of fleas, etc.

*** Sulphur is quite insoluble in water, according to ordinary standards, but recent work in other directions has shown that infinitesimal solubility cannot always be neglected, as in the sterilization of water by the presence of an insoluble metal such as copper. From the killing of bacteria in the immediate neighbourhood of the copper, however, to the driving away of fleas from the coat of an animal that has drunk the water containing sulphur is a considerable step. In view of the commonness of the practice of putting stick sulphur in a dog's drinking water, it should not be difficult to obtain confirmatory evidence if the disappearance of fleas noted by Dr. Broom was more than a coincidence.